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ABSTRACT

Following a foreword (Ross Paul) and an introduction (Robert Sweet), three sections on instituting postsecondary distance learning systems across Canada are presented: access and student support, educational technology, and institutional response. The first section contains the following: "Women in Distance Education: Towards a Feminist Perspective" (Rebecca Coulter); "Building Bridges: Northern Native Teacher Training" (Robert Paulet); "Le Tuteur et le Support a l'Etudiant en Enseignement a Distance" (Celine Lebel, Bernard Michaud); and "Provision of Student Support Services in Distance Education: Do We Know What They Need?" (Gordon Thompson). Papers in the second section are as follows: "La Formation a Distance: Des Choix Technologiques et des Valeurs" (France Henri, Therese Lamy); "Third Generation Course Design in Distance Education" (David Kaufman); "Contradictory Directions for Distance: Cultural Miscegenation, or Cultural Symbiosis?" (Gary Boyd); "A Philosophy of Distance Education: Perceptivism" (Charles Brauner); "La Technologie Educative dans l'Enseignement a Distance, Son Role et Sa Place" (Louise Sauve et al.); and "Distance Learning using Communications Technologies in Canada" (Barbara Helm). The third section contains the following: "Diversity or Chaos in Canadian Distance Education? A View from Overseas" (Anthony Bates); "Canada's Open Universities: Issues and Prospectives" (Ross Paul); "Involvement with Distance Education: Issues for the University" (Margaret Haughey); "Distance Education and Accessibility to Canada's Community Colleges" (John Dennison); "Being Responsible to the Adult Distance Learner: A Secondary School Example" (Norman McKinnon); "Canadian Private Sector Distance Education: A Preliminary Analysis of Organizational Structure and Governance Issues" (Kenneth Slade, Robert Sweet); "Collaboration in Distance Education" (Abram Conrad, James Small); "Collaboration in Distance Education: British Columbia's Open Learning Agency" (Ian Mugridge); and "Collaboration in Distance Education: Ontario's Contact North/Contac Nord" (Terry Anderson, Connie Nelson). (NLA)

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POST-SECONDARY DISTANCE EDUCATION IN CANADA

POLICIES, PRACTICES AND PRIORITIES

Robert Sweet, editor

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Foreword

In Canada, as around the world in very diverse social, political and economic circumstances, there has been an explosion of interest and participation in distance education. More and more frequently, governments and other agencies are turning to distance learning systems to extend accessibility to post-secondary education as its value for economic and social development is increasingly recognized and promoted. This faith in distance education has led to many benefits, including increased accessibility, a greater emphasis on lifelong learning and retraining, and some very positive challenges to traditional institutions including demonstrating the value of open admissions and the cost effectiveness of some of its responses.

Too often, however, the new popularity of distance education is based on less than thorough analyses of the sorts of challenges faced on a daily basis by its practitioners -- concerns about the quality of learning and learner dependence and independence, about student support and interaction, about cost effective systems development, about patterning learning materials and delivery systems to the needs of specific groups of learners, and about the management of such systems.

Canada should be in an excellent position to yield good case studies and a strong dialogue about the advantages and disadvantages of distance education. It is, at one and the same time, a country where new interest in the field is booming and yet it also has an experience of distance education sufficient to provide valuable lessons to its new practitioners.

While much of this collection is descriptive, enough issues are raised by the authors to caution educators struggling to institute new distance learning systems in Ontario, in the North, in the Maritimes and elsewhere across Canada that the formidable time, distance, economic and social barriers facing students wishing to further their education in this way are not easily overcome. Canada's unique federalism, so much a part of our way of thinking, renders generalizations and the development of a national system of education much more difficult (as Tony Bates has discovered), but it should also spawn a broad range of opinion and debate in this field as it does in so many others.

In the interests of furthering this debate, Athabasca University is a proud co-sponsor of this publication with the Canadian Society for the Study of Education (CSSE). I would like to acknowledge, in particular, the work of Robert Sweet, editor of the book and organizer of a symposium in Thunder Bay which brought the various authors together in the context of the exciting developments of Contact North in Ontario, Michael Owen, who has taken responsibility for Athabasca University's part in producing this book, and Gene Ady whose technological wizardry guided this book through the production process.

R.H. Paul
Vice-President Academic
Athabasca University
April, 1989

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Introduction

Robert Sweet

Within the last decade, governments and institutions around the world have embraced the concept of distance education. A remarkable array of courses and programs have been designed, developed and, depending on location, delivered by various means.

In Canada, courses are presented using a range of media: print, audio and video cassettes, television broadcasts and computer communication links. It is possible for a student in any province or territory to enroll in a program of studies leading to a degree or diploma in a number of subjects and disciplines. These programs are available from ministries of education, universities and colleges, through training programs offered by business and industry, and from proprietary schools specializing in correspondence instruction. This rapid growth of various forms of distance education provision has been among the most significant of recent developments in Canadian postsecondary education.

It is difficult to determine the forces that shape distance-education policies and practices in a particular country. Technological advances and a desire to create innovative learning systems have been cited as underlying the emergence of distance education in Canada. Certainly a "culture" of instructional design and technology characterizes distance education and educators; however, even a broadly conceived and imaginatively applied educational technology can only contribute to the realization of basic social goals that underlie and define the postsecondary educational enterprise. The social policy concerns of government and educators were apparent in the recent National Forum on Postsecondary Education (1988) and in the Annual Provincial Premiers' Conference (1988). Both groups recognized the need for change in the postsecondary system if Canada is to meet successfully the challenges of an economy driven by technological innovation, a dramatically altered social structure due principally to an aging population and workforce, and a significant shift in the ethnic and cultural composition of the country. Central to this view of change is the ideal of lifelong learning and the derivative concepts of accessibility and openness.

The 1972 UNESCO Report *Learning To Be* described principles of lifelong learning designed to broaden the interpretation of education and the avenues available for learning. The Report asserted that education could and should be acquired through a "multiplicity of means," including general life and work experiences, and it should be embedded in each individual's personal situation by "redistributing teaching in space and time." These strategies emphasized the need to alter traditional views of the student's role from relatively passive recipient of information to active participant in the learning process. Molyneux (1974) summarized the position of the UNESCO Report and other, similar documents of the time, with the observation that: "There is the belief that while education is a social process systematically organized and institutionalised, learning is a personal experience. It begins and ends with the individual and the time has come to invest him with considerable choice in deciding where, when and how he will seek to learn" (p. 119). The sense of agency conveyed in this

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statement is consistent with current views that assign learning a central role in developing and maintaining a sense of personal wellbeing (Aslanian and Brickell, 1981). Rather than the traditional three-stage developmental sequence that begins with school, "graduates" to responsibilities of work and family, and concludes with retirement, lifelong learning assumes the desire and need for continued learning across the lifespan.

Education is not, then, synonymous with schooling; much less is it confined to the formal classroom instruction of childhood and adolescence. Implicit in the notion of lifelong learning is a requirement to view the learner as autonomous and responsible (Garrison and Baynton, 1986; Burge, 1988). Perhaps this focus on the nature of the mature learner is among the most significant contributions of the UNESCO Report. It has direct implications for the organization of accessible and open institutions and for the design of learner-centered instruction.

Social class differentials in levels of access to a conventional university or college education remains as tenacious a problem in the 1980s in this country as it was throughout the 1970s, when great efforts were made to overcome social and geographic barriers to participation (Aniset, 1984). At that time, many Canadian educators realized improved access would follow adoption of non-traditional modes of study, notably various forms of distance learning. Toward this end, governments in three Provinces — B.C., Alberta and Quebec — established degree-granting universities whose primary task was to provide distance-education programs for individuals unable or unwilling to attend fulltime a campus-based course of studies. The defining characteristic of these distance-learning schools is a commitment to greater institutional openness through such organizational changes as: credit banking, rolling enrollments, tutorial support, and individual pacing of courses. A number of other administrative arrangements are implied in a policy of openness. All are calculated to present a more flexible institutional face to the growing numbers of students with job and family responsibilities that preclude involvement in conventional postsecondary education. The extent to which Canada's established universities and colleges commit themselves in a similar direction remains to be seen. Distance delivery of courses by many of these institutions is becoming commonplace, but most are quite restrictive in their entry requirements. The implications of adopting distance education for greater access, institutional openness and, ultimately, the democratization of higher education are still being explored in policy forums (Fortin, 1987).

Having considered distance education as a response to social imperatives, we turn to its relationship with earlier outreach programs. Distance education really is not new in Canada. Queen's University began credit correspondence courses in the Faculty of Arts and Social Sciences in 1889. In the private sector, ICS Canadian can trace its origins (through its parent company) to 1890. Later developments included the 1935 Antigonish Movement with its "Farm Radio Forums": discussion groups that used educational broadcasts, study clubs, regional organizers and printed materials to widen peoples' horizons and help improve farmers' conditions during the depression (Conger, 1974).

Details of later events in Canadian distance education are found in a rather limited literature and may be traced through a series of publications beginning in 1979 with a special issue of the *Canadian Journal of University Continuing Education*. The second publication of note was the more technologically oriented *Programmed Learning and Educational Technology* (1983), which contained a number of articles

on Canadian developments including a description of Quebec's Teleuniversite. In 1984, the *Canadian Journal of Higher Education* published Smith, Daniel and Snowden's overview of a rapidly evolving distance education movement. Since that time, there have appeared two volumes: Mugridge and Kaufman's *Distance Education in Canada* (1986) and Henri and Kaye's *Le Savoir a Domicile* (1985). In addition to these publications, a number of articles about Canadian distance education have appeared in *The Journal of Distance Education* and in the *American Journal of Distance Education*.

The present volume compiles the evolving views of many authors whose writings are contained in the above-mentioned publications. As well, it includes a number of papers from individuals who have not been quite as closely associated with distance education in this country, yet whose experience, training, and inclinations offer insightful interpretations of issues and events.

This collection of essays is not comprehensive and the reader will note a number of omissions. For example, there is no analysis of the economics of distance education although this figures importantly in policy debates on matters of access and program development. Other topics deserve detailed treatment but are not given adequate space. Most notably missing is a detailed account of the recent and growing overseas involvement of Canadian institutions and Canada's contribution to the recently formed Commonwealth of Learning. Both initiatives indicate the global nature of the field and underscore opportunities for Canadian involvement. Also, the scope of the collection is restricted to the postsecondary level and to the adult learner. Further constraints were imposed principally through attempts to encourage authors to be less descriptive than the majority of articles found in the literature and to attempt instead an analytic and interpretive view of the field. The consequence is that many papers point the way to future developments through their emphasis on rationale, theory, and explanation of policies and practices. Emerging from this is a picture of significant developments in Canadian distance education in the 1980s and a sense of its potential to enhance postsecondary educational opportunities over the next decade.

Three broad themes run through the work: improved accessibility, the principles and application of educational technology, and innovations in institutional practice. The arrangement of articles by theme is not exact, as most papers address more than one theme, and some touch on all three.

Accessibility

In their various ways, the papers in this first section treat two basic aspects of the accessibility question: the first refers to the identification and understanding of the learning needs of specific student groups; the second, to a distinction between access of entry to a program and the support students need to achieve success in that program.

One can adopt two perspectives in defining access of entry to higher education: the average probability of enrolling in university or college over an entire population, the most frequent indicator of which is the "participation rate"; and a social stratification perspective (Anisef, 1984) that attends to variations across groups possessing common characteristics, such as gender, language, ethnicity or socioeconomic status. Despite claims of economies of scale for

distance-learning systems and their seeming potential to increase general participation rates, the use of distance education in meeting the needs of specific groups in society likely will be its most effective contribution to improved accessibility.

Rebecca Coulter's paper describes recent developments in distance learning opportunities for women. Coulter traces the experiences of students enrolled in a Women's Studies course at Athabasca University and offers an insightful account of the individual learning situations of the participants. The highly personalised picture she presents is informed and interpreted with reference to a varied and wide-ranging literature that obviously is expanding as feminist scholars attempt to account for the present position of women in the educational system and as they explore the potential of vehicles such as distance education to improve present and future educational opportunities.

Robert Paulet's paper opens with a boat ride and proceeds from there to outline the requirements for an effective teacher-education program for native people living in the North. Throughout the journey, the author questions current assumptions and criticises present practice while carefully drawing the basis for complementary methods of program development and delivery. Underlying the entire argument is a conviction that programs will be successful in relation to their ability to empower rather than direct.

Removing barriers to entry moves educational institutions closer to a situation of real equity. However, merely providing greater opportunity to enroll has not broadened the social base of accessibility to distance learning. Existing programs serve best the educationally skilled; the educationally disadvantaged, if they do enroll, are more likely to become attrition statistics. If accessibility is not to be a false promise for those individuals and groups who lack the skills and attitudes to succeed in traditional educational programs, distance education must be prepared to adopt the idea of equality of results, a notion that Ross Paul in his paper on institutional practice suggests requires distinguishing between situational and institutional barriers to enrollment and barriers that prevent success following enrollment. The papers by Thompson and by Lebel and Michaud discuss success barriers in terms of students' learning style, cultural asumptions within curricula, the labeling process, and power relationships. The shape and nature of future student support services are outlined, and Lebel and Michaud define the tutor's responsibilities not in terms of content but directed instead toward developing the learning skills of students.

Educational Technology

Educational technology can be defined in terms of the equipment used in the provision of instruction: products ranging from chalkboards to communication satellites, or as a process involving the "consumables" of instruction such as computer software, videotapes, and teleconferences. Also considered an aspect of educational technology are the instructional development activities that generate both products and processes. A broader view of the field would emphasize the pedagogical and theoretical (even philosophical) underpinnings of educational technology development.

Most papers in this collection adopt a broad view and are distinctly conceptual in their treatment of the many dimensions of educational technology; yet basic to all is a consideration for the student. Technology should be

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subordinated and responsive to the characteristics and demands of the only-too-human learner. The desired result is a set of products and processes that are, in Illich's terms, convivial.

One of the tasks of technology in distance education is to overcome not only geographic barriers to participation but also social barriers. Henri and Lamy provide a highly useful overview of the various definitions of distance education, drawn in terms of their underlying values. This analysis results in a decision framework for choosing appropriate instructional technologies. Essential values of an evolved definition of distance education would be learner-centered and emphasize the elements of access, dialogue, and learner autonomy.

Kaufman similarly traces the evolution of three generations of distance-education course design. Each is evaluated in terms of its ability to promote the goals of learner control, dialogue, and the development of thinking skills. Third-generation designs are seen as offering the potential to realize these goals by exploiting the capabilities of the computer to create communications networks and accessible data bases.

Gary Boyd also directs us to the potential of computer communications in his description of the need for distance education to be put at the service of the global community — a larger community that in an important sense awaits creation within the electronic network Boyd envisions. As he points out, small projects are underway and larger ones are envisioned — the most notable of which is the Federal government's Clean Talon Project, which would see a truly enormous information base made available to the general public.

Charles Brauner uses existing attempts to apply learning theory in instructional design as his point of departure in arguing for a more richly philosophical base for distance-education design and delivery practices. His development of "perceptivism" as the needed framework is an imaginative document and brings to bear on the design of effective distance education a very different set of assumptions and understandings. Interestingly, an active role for the tutor lies at the heart of his curricular and pedagogical recommendations, all of which are designed to improve the achievement of a wider constituency of learners.

Sauvé, Gagné and Lamy's paper argues for the theoretical compatibility between educational technology and distance teaching as a basis for articulating a distinct role for the educational technologist. Their review of the literature and a survey of current activities of educational technologists outlines the elements of the role as well as laying the groundwork for further research.

Helm's paper is based on a national survey of communications technologies and their use in distance education. Drawing on her experience with federal government activities in the communications field, Helm's informed commentary provides a unique perspective on the application of technology in Canada and internationally.

Institutional Response

Postsecondary education in Canada undergoes periodic examination, and the current round of policy debates revolves around elements of the well established "triangle": student accessibility, government funding, and program quality. Distance education is mentioned in these discussions largely in terms of its presumed ability to improve participation rates and to do so economically. It is

not viewed as an alternative educational system but rather as an extension of existing institutional arrangements. The idea that the current appeal of distance education represents a unique opportunity to construct an open learning system designed to improve learning opportunities rather than an educational institution designed to exert control of the same has been advanced by Morrison (1988). The papers in this section are concerned with innovation among existing educational institutions and to describe their very different responses to the demands for improved access and to the challenges and potential of educational technology.

Tony Bates begins this section with a wide-ranging critique of distance education in Canada, offered from the point of view of a knowledgeable outsider. His familiarity with the development of Canadian distance education is based on numerous visits and extended periods of study in this country. Bates first provides an overview and interpretation of events before observing that a fundamental impediment to future development of distance learning in Canada is its fragmented character, which he describes as "patchy, arbitrary and incoherent". A number of possible approaches, if not solutions, to this state of affairs is offered, and these provide a useful introduction to the other papers in the section, many of which address the issues raised.

Ross Paul's paper is an appraisal of the "single-mode" distance-teaching institutions: Athabasca University, The Open Learning Agency, and The Tele-universite. He profiles each in terms of a non-traditional value orientation that defines their unique mandate. He also discusses the necessity for inter-institutional cooperation and the evolution of educational technology within the organizational history of each institution. Margaret Haughey follows with an outline of the options and choices facing the traditional universities that increasingly are adopting distance delivery of courses. John Dennison describes the situation of the community colleges and assesses the highly individual approach of North Island College to its regional mandate of providing learning opportunities along the West Coast of British Columbia. At the school level, Norman McKinnon describes the inclusion of adults in the system and the necessity to adopt a systematic yet responsive delivery system. Kenneth Slade and Robert Sweet outline issues of regulation and accreditation of the increasingly important proprietary correspondence schools. Their paper reports results of a larger research project on the private education sector; that research was designed to better inform policy debates on the educational role of business, industry, and the private training institutions.

These papers describe a period of change and innovation in the structure and character of educational institutions at various levels of the postsecondary system. The remaining papers are concerned with the collaboration and cooperation among institutions, which is seen as essential to the rational growth of distance education in Canada.

Abram Konrad and James Small briefly introduce the topic with their description of the basic features and forms of institutional collaboration. This is followed by two case studies. The first, by Ian Mugridge, describes the very recent formation of the Open Learning Agency in British Columbia. Anderson and Nelson then describe and analyse the Contact North/Contact Nord project in Ontario. Both provide a glimpse of two of the most significant collaborative undertakings in Canada. The Contact North/Contact Nord project has been in operation longer than the OLA, and Terry Anderson and Connie Nelson use available data to assess the basic assumptions of the delivery model under which

the project operates.

This collection began with the rather straightforward goal of conducting a reappraisal of some of the ideas found in Mugridge and Kaufman's 1986 publication *Distance Education in Canada*. The publishing business, however, tends to be more interesting than straightforward, with the result that the present volume is both more diverse in content and good deal lengthier than originally intended. It nevertheless contains papers that reassess and reinterpret previous positions and understandings of the state of distance education in Canada. It also includes papers on a number of topics and areas of concern that previously have not received attention: women in distance education, the provision of instruction for the native learner, and the assessment of the private sector are examples, as are the views of colleagues from the Télé-université.

In addition to making a significant contribution to the literature, the authors of this volume tell us that distance education in Canada is responsive to the needs of many new students; it continues to grow in technological sophistication; and it promises in the next decade to make an even greater contribution to postsecondary education.

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Women in Distance Education: Towards a Feminist Perspective

Rebecca Coulter

Introduction

If Renate D. Klein (1987) can claim that "until recently, there has been a remarkable dearth of reflective writings on the theories and practices of the WS (Women's Studies) classroom dynamics" (p. 187), the case is even worse in the area of women's learning through distance education. Although several collections of articles (Bunch and Pollack, 1983; Bowles and Klein, 1983; Culley and Portuges, 1985) provide an introduction to feminist theory and practice in the educational domain, and other works address such specific questions as curriculum development (Rosser, 1986) and a learning psychology for women (Belenky, Clinchy, Goldberger, and Tarule, 1986) or tackle social policy issues of education and equality and sexism and schooling (Marland, 1983; Walker and Barton, 1983; Deem, 1978, 1980; Purvis and Hales, 1983; David, 1980), virtually no attempt has been made to relate any of this material to an analysis of women and distance education. This is, perhaps, not particularly surprising. The record of production of significant theoretical writing in distance education is not exactly overwhelming and hence it might be argued that the base on which to construct a feminist analysis is almost non-existent. On the other hand, this vacuum in distance-education research and analysis provides a fortuitous circumstance that allows feminists to build a new structure from the ground up rather than forcing them to renovate an old and inadequate one.

The need to develop a feminist or women-centered understanding of distance education can be seen as an essential task for educators in that field when we consider that distance learning is increasingly popular for women. For example, at Athabasca University (AU), an Alberta institution that specializes in offering courses in a distance-education format nation-wide, 60-62% of all students have consistently been women. Since women's share of spaces in undergraduate education in Canada in general is 52% (Government of Canada, 1986), the proportionally larger enrolment of women in distance-education courses is interesting. Yet no one has systematically explored why distance education in the AU context is more appealing to women than to men. As a result, gender has been ignored or down-played in most of the institution's debates about academic policy and strategic planning and has remained largely a non-issue in course development and delivery. There is reason to think that this scenario is replicated in most distance-education programmes in this country and elsewhere (Faith, 1988).

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The Appeal of Distance Education for Women

While some aspects of the Athabasca University distance-education model are unique, it is still possible to use one university's experience to suggest some reasons why distance education might be especially attractive to women students. Although AU uses a variety of distance-education deliveries, the primary form of instruction remains print-based packages designed for home study and supported by regular toll-free access to a telephone tutor. Access is further enhanced through an open admissions policy, self-pacing in most courses and year-round enrollments. Library and student counselling services are also available by telephone or through the central and regional offices. AU also provides an inexpensive credit co-ordination service that allows each student to apply to have all credits earned at other post-secondary institutions evaluated for applicability to AU degree programmes. This is particularly important for women, who are more likely than men to have had their education interrupted by child-bearing and child-rearing, or by the need to support a spouse through school or to follow him to various provinces or countries through job transfers or changes.

Study through the AU model of distance education offers a high degree of flexibility and individual control to each student as well as a significant level of academic and personal support. In other words, home study appears, for many women, to be a form of education well-suited to them. It is something that allows them the opportunity to access university education while, at the same time, raising children at home or, more often, carrying the double burden of full-time paid employment and responsibility for home and children.

Feminist Criticism of Distance Education

However, it is precisely the home-study character of most distance education that leads many feminist academics and activists to criticize this form of learning as contributing even further to women's isolation in the home. Distance education is thought, therefore, to be inappropriate to women's learning needs.

In an earlier paper evaluating distance education for women (Coulter, Delehanty and Spronk, 1983), the claim that home study was inherently inferior to more traditional classroom-based learning experiences was uncritically accepted. Nonetheless, it was argued that for many women the choice was between home study or no study and "given these options, who can argue that it is better to offer nothing?" (p. 6). Since then, however, the development of Women's Studies courses at AU has given cause to question the assumption that distance education is an inferior educational option for women.

A Feminist Rejoinder

Whilst women's isolation in the home is a problem that should not be down-played, criticisms that damn distance education as a further contributory cause are guilty of ignoring the material realities of women's lives. Every day women cope with the limitations placed on their lives by lack of money and time, by distance and geographical location, by inadequate child care and public

transportation systems (Luxton, 1980; Briskin and Yanz, 1983; Armstrong, 1984; Fitzgerald, Guberman and Wolfe, 1982; Maroney and Luxton, 1987; Women's Educational Research Project, 1984). In this context, distance education is not part of the problem. It is part of the solution.

First of all, it should be recognized that women living outside the major urban centres have no easy access to post-secondary education except through distance education, and this form of learning simply makes it possible for these women to have a wider range of life choices open to them. Indeed, even those women who live close to a university or college often find that the complications of arranging and paying for child care and transport to and from classes (among other things) discourages participation in campus-based programmes. In the case of many full-time homemakers, whether urban or rural, who take AU courses, a desire "to keep my mind alive" is cited as their reason for pursuing education. That is, while they may have chosen to stay at home to rear children, they also wish to take university courses for intellectual stimulation or to upgrade their credentials in anticipation of a return to the paid work force. A distance-education course is their way to balance work in the home with an outward looking activity, and they do not experience home study as isolating.

Women also find home study, at least in its AU variant, a suitable option because it allows them to arrange study times around other schedules and activities in their lives. The relatively small number of external constraints governing assignment due-dates and the like means that a major crisis does not occur when a child falls ill, a school holiday occurs, or some other event takes a mother away from her books. As one 1987 AU graduate put it, "Where else but Athabasca University can a woman write an exam on a Thursday, have a baby on Saturday, and write another exam the following Friday?"

And, while distance education is by no means cheap, it is, comparatively speaking, less dear than campus-based study. The 1987-88 course fees of $171 for a three-credit course and $292 for a six-credit course pays not only for the tutoring but for all textbooks, study guides and other course materials, as well as for library services, counselling, and access to computer labs and audio-visual facilities. Students also telephone their tutors and various university services collect. In addition, in most cases no additional outlay of money is required for child care, transportation, and other costs normally covered by students enrolled in traditional universities. For women who suffer from wage discrimination or who must depend on the financial support of a man, these monetary considerations are important.

Finally, we should not forget that in some instances home study allows a woman to hide the fact that she is studying at all from an abusive man or a partner who simply feels threatened by the woman's desire to get a university education. Given the high level of violence against women in our society, this is no small matter, and distance education may, in fact, ultimately offer some women the skills necessary to find paid work, leave abusive relationships, and start independent lives.

For these and for other very practical and concrete reasons, it is easy to argue that distance education provides a special kind of accessibility to education for women by taking into account the realities of many women's lives. In fact, although completion rates in distance education are notoriously low, women are more successful distance-education students than men at AU. In 1984-85, 49.8%

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of the women enrolled in courses successfully completed them whereas only 38.9% of the men did.

Women's Learning Styles

A common criticism of distance-education learning is that the presentation of material in set packages or modules implies the immutability of knowledge and emphasizes the authority of the printed word. It is thought that social interaction is non-existent and that critical thinking is unlikely to occur. If this criticism is true, women's learning at a distance would be problematic: women's need for non-authoritarian, non-coercive, cooperative learning, and for interactive learning processes leading to consciousness-raising and social action, are consistent themes throughout the feminist writing on education.

The Question of Authority

There certainly are many distance-education courses that completely exclude the experiences of women and that suggest that the material covered in the course is objective, factual, "the truth." That is, many courses have been written to suggest that professors or course teams are the authorities and that the knowledge they impart is to be learned but not criticized. The teacher/study guide is the subject; the student is the object. Using Freire's (1971) metaphor, education is viewed as banking. Knowledge is deposited in the student so that it can then be withdrawn at some later point. The role of the student is one of passivity and silence.

For women who grow up in a culture that systematically silences them both at an individual and collective level, this is particularly pernicious, but it is not a limited to distance-education. In their landmark study on women's learning, Belenky *et al.* (1986) speak very movingly of how women's experiences of male dominance and violence silence women and help limit their ability to benefit from education in general. For example, they discovered that for some women experiences of sexual abuse "made them cautious around male professors, confused about what was really going on, and consequently conflicted about receiving praise" (p.59). Women are often suspicious of male professors who praise their work and wonder if this is a cover-up for sexual desire. Thus, while many women crave the approval of male authority figures, when it comes women tend to question its motivation. Women who have learned denial and silence in sexually abusive situations carry this over into their interactions with professors or instructors who also have power over them. As Belenky and her colleagues put it, "a kind of cognitive cloudiness pervades the thinking of many such women—they are literally unsure if they really know what they know and if their achievements are genuinely deserved" (p. 60).

When we consider that at least one Canadian woman in ten is battered by a man in her life and that estimates suggest that one girl in five is the victim of male sexual abuse, the importance of the relationship between violence, silence, and education can be understood. Indeed, even in cases where overt sexual abuse has not been a factor, well-institutionalized patterns of male dominance and authority have taken their toll in terms of women's abilities to value their own achievements and to trust to be wrong. Over and over again, Belenky and her

co-researchers became convinced that every women "needs to know that she is capable of intelligent thought, and she needs to know it right away" (p. 193).

Questions of authority and silencing, then, pervade all forms of education and are not peculiar to distance education alone. In fact, distance education, precisely because it is that—at a distance—can be seen as providing women with an opportunity to learn away from the direct threat of males, whether professors or other students. Sexual harassment is decidedly less of a problem for students enrolled in distance-education courses than it is for students in classroom situations.

Furthermore, many of the elements of cut-throat competition and hierarchical ordering associated with patriarchal forms of learning, which many women find difficult to cope with (Maher and Dunn, 1984; Klein, 1987; Rich, 1979), are removed in distance education. Because students are engaged in home study and rarely meet their peers, they are not subject to intense rivalries over grades and stand little chance of becoming victims of verbal attacks from professors or fellow students. The primary relationship is with a telephone tutor, and students have a high degree of control when contact between tutor and learner is by telephone. Furthermore, because the teaching/learning process between tutor and student is on a one-to-one basis, the potential for developing a more co-operative and shared approach to education is greater than in a classroom situation where one instructor ministers to large numbers at the same time. One Women's Studies tutor described her feelings this way:

> Because the student and I are both at home, an aura of personal communication is present which is not apparent initially in a classroom situation. I find that I speak in an easy, casual fashion on the telephone, in a way that would be inappropriate when one is talking to more than one person in a classroom. . . . The phone calls are by nature more personalized and natural (Bray, 1986, p. 9).

It might well be that telephone tutoring encourages mutuality between two adults who both teach and learn from each other rather than engaging in the more common dominance-submission patterns of instructor and student.

In important respects, too, the tutor mediates between the professor's authority as invoked in the study guides and the student. The tutor can, for example, engage in a conspiracy of criticism with the student and thus help the student subject the professor's interpretations to close scrutiny. Of course, it is also possible for the tutor to reinforce the authority of the print package, thus making matters even worse.

In the final analysis, however, course materials should be designed in such a way as to overcome the criticism that the authority of the printed word and the patriarchal structuring of instructional design make distance education particularly difficult for women. Students should not have to rely on the luck of the draw to find a tutor who will help them take a more open approach to a course or provide them with supplementary readings to fill in the gaps and make women's lives visible.

The AU experience suggests, though, that many women find distance-education learning, despite its flaws, considerably less threatening than other types of formal education. Women students often observed that they use distance-education courses to build up a confidence in their own skills and abilities before moving on to more traditional settings. Distance-education

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courses allow women to test themselves in relative privacy and in reasonably non-threatening ways. Failure, if it comes, is not public.

Helping Women Find Their Voice

If distance education is an attractive educational option for many women, what can be done to enhance women's learning experiences in areas like course development and delivery? One of the most important lessons to come out of the women's movement has been the one which emphasizes the importance of hearing and validating women's experiences. Feminist educators recognize that women have a need to see how and why "the personal is political", to understand how their individual troubles are connected to social problems. Learning from experience is not a new educational philosophy, of course, but it is only in Women's Studies that consistent efforts have been made to develop courses "which value women's personal experience, which develop an alternative version of women's lives to the one which legitimises their oppression, and which encourages women to stop denying their own interests in the service of patriarchy" (Thompson, 1983, p. 120).

Distance educators trying to meet the goals of developing "a process of learning concerned to empower women and to change fundamental attitudes and behaviour" (Thompson, 1983, p. 111) have to think carefully about how to incorporate personal experience with social analysis, how to value personal experience without negating the importance of more abstract theorizing. Some practical attempts to do this in distance-education Women's Studies courses at AU have begun but are far from completely satisfactory. Course authors were asked to share relevant aspects of their personal experience with students. For example, authors might discuss how they developed their interests in particular subjects and issues and how the courses they are writing relate to other parts of their lives and to their world-view. Course authors are also encouraged to insert personal examples or experiences throughout the course to illustrate points they are making. For instance, the author of the course entitled "Issues and Strategies in Counselling Girls and Women" discussed what happened when she appeared as an expert witness at custody hearings in which a lesbian mother was threatened with the loss of her children. That is, the author/teacher provided a concrete case to demonstrate how particular social constructs and ideologies work themselves out in real life and, just as importantly, how feminists can use their knowledge and expertise to assist other women and work for change.

Women's Studies tutors are also encouraged to share their personal experiences and analyses with students; consequently, students usually feel comfortable enough to relate events in their lives to the course material and to test feminist theory against their own lived realities. In addition, the experiences of other women and their reflections on those experiences are built into the courses through devices such as case studies, novels, poetry, and taped interviews or discussions. For example, in the health-issues course a tape of new mothers discussing their knowledge of the birthing process is used to introduce issues related to the medicalization of maternity. It is worth noting that the use of audio-tapes is a particularly well-liked aspect of courses since women report that by listening to tapes in many different situations—in their cars while driving to work, in the kitchen while preparing supper or washing dishes, on their Sony

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Walkmans while exercising—they are able to manage their limited time more effectively.

A number of courses include exercises that help women focus on and analyze their experiences, and often these assignments and projects ask students to discuss questions with other women in their communities. Many students report with some amazement that they had never really talked to their mothers or sisters before about how they felt about women's lives. Daughters are especially surprised to find out that the content women they thought mothers to be were no such thing and that mothers deeply resented the lack of opportunities and the constricted lives they had felt forced to lead in previous decades.

Activities such as the ones last named encourage women to talk to each other and do much to overcome the problem of studying alone. This is especially important; educators in the field of Women's Studies have found that interaction between women is an essential part of their learning. Although we have found that many women are so excited by their learning in Women's Studies courses that they talk to anyone who will listen—friends, acquaintances, mothers, co-workers—and often duplicate course readings to distribute at church groups, women's clubs, and workplaces, course developers need to make conscious efforts to assist students to make contact with others.

On the other hand, there is no need to make a fetish of social interaction. Although many students express a need to talk to other students, many others indicate that after caring for people all day as mothers or workers, their private study is what they do for themselves, is their escape, is, for each of them, if you will, "a room of one's own". For some women students, the recognized healing that comes through journal writing is replicated in private study.

The skillful educator will find ways to adopt dialogic teaching to the distance format in order that students can make their own connections between new ideas and old, between experience and analysis, between thought and action. The "teacher" can imaginatively and empathically engage in a "conversation" with students, anticipate and answer questions, acknowledge that some of the material is difficult to grasp, but offer assurances that it can be understood. Students can be shown how to uncover sexist assumptions and ideological positions, evaluate alternative views, and unveil the value systems of various writers and thinkers. That is, distance-education courses can be designed to encourage women to question the authority of the printed word and provide "models of thinking as a human, imperfect, and attainable activity" (Belenky *et al.*, 1986, p. 217).

It is the midwifery metaphor developed by Belenky *et al.* (1986) from their work with women that describes the form of teaching that distance educators, with others, might strive to achieve.

> The kind of teacher they (i.e. women) praised and the kind for which they yearned was one who would help them articulate and expand their latent knowledge, a midwife-teacher. Midwife teachers are the opposite of banker teachers. While the bankers deposit knowledge in the learner's head, the midwives draw it out. They assist the students in giving birth to their own ideas, in making their own tacit knowledge explicit and elaborating it (1986, p. 217).

Of course, developing an instructional design that would serve as a mid-wife is an enormous and on-going task made especially difficult by the nature of distance-education materials. Even if we work with students on a course team or design a course amenable to ongoing revisions so that student critiques and

suggestions can be worked into the course at regular intervals, it still remains true that a course package, once produced, is difficult to change. Thus it is all the more important at the development stage to build in flexibility and interaction, motivation and encouragement. It might even be argued that distance educators need to be more conscious than others of the psychological theories and educational philosophies that inform their work. Those things which have been taken as givens in education need to be constantly subjected to analysis. The work of Gilligan (1982), for example, shows that our understanding of psychological development has really been only an understanding of male development. Hence there is a pressing need to re-think the understanding we have of human development particularly as it relates to the ways in which people learn.

Ultimately, the challenge to distance educators, indeed to all educators, is two-fold. First, we must meet Rich's (1979) call that "women need a reorganization of knowledge, of perspectives and analytical tools that can help us know our foremothers, evaluate our present historical, political, and personal situation, and take ourselves seriously as agents in the creation of a more balanced culture" (p.141). Second, as the work of Maher and Dunn (1984) shows, we need to try to develop courses where content and teaching come together, where what is taught and how it is taught are two complementary and interacting parts of the whole. If ways can be developed to meet those challenges in distance-education courses, a significant contribution will be made to women's knowing and to the transformation of our world through the process Freire has called conscientization.

In the end, the acid test for adult education, whether it is offered at a distance or in other formats, is the degree to which it both empowers learners to make choices about their personal lives and encourages them to engage in socially conscious activities with others. This goal is continually articulated by Women's Studies teachers (Klein, 1987), though it has often been suggested on an informal level that consciousness-raising leading to individual or social action is unlikely to be achieved through distance learning. The experience in Women's Studies at Athabasca University, however, demonstrates in an extraordinarily clear manner that distance education can be at least as effective as classroom education in effecting change. A few examples, based on information students have chosen to share, will serve to illustrate the ways in which women have used what they have learned in their courses to make changes in their lives and in the lives of others.

A woman and mother of two children had already left her battering husband before enrolling in the introductory Women's Studies course. However, as she explained later, she continued to feel that the husband's battering was somehow her fault, that she was not worth loving. She also felt that the church she had attended regularly all her life contributed to her feelings of worthlessness by organizing all activities around couples, by emphasizing biblical injunctions of women's obedience, and so on. Part way through the course, she said, and after reading and thinking about the material, she suddenly woke up one morning and, while lying in bed, was suddenly able to hug herself and say and believe, "I am worth loving." This new-found strength then enabled her to confront the minister in the church. She pointed out to him that violence can be psychological as well as physical and that she felt that attitudes, behaviours and teachings in the church needed to change if the church was not to be culpable in the matter of violence against women. She provided the minister with reading materials from the

course and convinced him that she could run a Sunday School group for women, especially single parent women. This she did, and while her class started with only four members it has grown steadily over the weeks. In addition, the minister has continued to read on women's issues and occasionally delivered a sermon on women's rights or related themes. In addition, it is interesting to note that this woman, who is now pursuing a degree in psychology at a traditional campus-based university, found that she was able to critique the material on women and violence in other AU courses and in her classroom psychology courses and was thrilled both at her mastery of the subject material and the fact that she felt self-confident enough to "talk back" to professors, whether they appeared in-print or in-person.

Although there are many wonderful stories like this, it must be recognized that some women have had very painful personal struggles as a result of enrollment in Women's Studies courses. They have turned to Student Services counsellors for help in working through past and present sufferings. This emphasizes the need for distance-education institutions to provide student-support systems staffed by skilled, non-sexist counsellors who are sensitive to women's special needs. Indeed, it is easy to argue that feminist counsellors should be on the staff of each student-service unit. Even this cannot guarantee that all students will be helped. In one instance the combined support of a tutor and a feminist counsellor was not enough to help a student cope with the pain of her past life and, to avoid further anguish and hurt, the student withdrew from the course. While this was a very sad decision, blame cannot be laid at the door of distance education; similar withdrawals occur in classroom-based courses, too. The fact of the matter is that most women ultimately move through the stages of pain and anger towards healing and new strength. They can be seen and heard at International Women's Day marches, on boards of provincial status-of-women committees, in workplaces, women's groups and churches. There is no happier moment for an educator than to see a former student on the six o'clock television news telling the world why Canada needs a universally accessible, high-quality child-care system and knowing that in important ways that student is there because of a distance-education course that introduced her to the women's movement and women's issues.

The woman who organized a workshop on pornography in a small northern community and went on with her friends to take successful action against local store for selling pornographic materials and the woman who set up education sessions on feminist counselling for the social workers in her office are just two of the many students who have gone on to make changes in their world. One student felt the joy of women's strength when she uncovered the history of a "tea and literary group" in her community and found that, despite its location in the heart of redneck country, members had used a traditional club to work for the subversive goal of women's rights for themselves and their daughters. Another student experienced the intellectual pleasure through Women's Studies of "seeing how all the pieces of everything I learned fit together and how everything is connected." These women, as distance-education students, have engaged in true learning; they have developed a personal praxis in which theory and action interact. As one student said, "I'll never forget this Women's Studies course. The things I learned are around me everyday and my life will never be the same again."

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Conclusion

This paper suggests some of the ways to begin to think about distance education as it relates to the learning needs of women students. It is a first attempt to draw together some of the strands of feminist work on education both from the women's movement and from the academic world in order to understand why distance education is attractive to women students and how their experiences of home study might be made better.

Distance education does not provide an inherently inappropriate or inadequate form of learning for women. It is, rather, one approach to education, which increases women's range of choices in any society. The problems and rewards of distance education are both similar to and different from those which can be found in other modes of teaching and learning. The challenges facing distance educators face all self-critical teachers. Can education be made an empowering and liberating experience both at the individual and collective levels?

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Building Bridges: Northern Native Teacher Training

Robert Paulet

Leaving St. Theresa Point, Manitoba

It had rained all morning and was still raining hard as we loaded the last box of books into the motor boat and left the small wharf near the school. The course was over and I was heading for the local airport. The waves were pounding the metal boat, but I was confident the old priest at the helm would get me safely across. His friendly smile reminded me of the hospitality of the local residents, and particularly of the native students who had successfully completed my teaching methods course. Looking over my shoulder at the small building that had served as our classroom, I remembered how the students helped me adjust to their community. From the first day when they quietly suggested that the green wood I had prepared for the stove would surely smoke everyone out of the classroom, to the last day—today—when they helped load the boxes of photocopies and books I would take back to university. It had been a busy and enjoyable time. But it had been some weeks and I was anxious to return to the south, or 'out' as it was referred to locally. As the boat ran easily against the dock, I was sure I could hear the float plane approaching....

Many northern native leaders, southern educators, and politicians sincerely wish to improve native education in the north. To do so, they would construct an educational "bridge" between the north and the south of Canada. The task of the wandering professor of St. Theresa Point was defined by that policy; but his personal experience suggests another view: namely, that northern communities must be involved in northern native teacher training programs and that these programs should be controlled, as much as possible, by the local residents.

The purpose of this paper is to examine critically the ramifications of directly delivering courses in the north under (a) an "Education at a Distance" model and (b) an alternative "Distance Education" model. It will compare their ability to assist in native education, yet remain sensitive to life style and culture in communities. The paper examines:

1. traditional and current native educational goals and aspirations, particularly the need for self-determination and appropriate teacher programs;
2. education at a distance for native students; and distance education as a supplement to current delivery systems.

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Traditional Native Education

Traditional Indian cultures valued the responsibilities of family life, particularly the obligation to prepare children for adulthood. Education encompassed all aspects of the child's life. Children were raised to assume adult responsibilities in an atmosphere of warmth and affection. "The responsibility for educating the young belonged to all adults in the community" (Williams and Wyatt, 1987, p. 210). Guided by the community, children learned by trial and error.

Later, they learned by attentively observing adults and practising their new-found skills. An emphasis was placed on respect for all living things, sharing, self-reliance, individual responsibility, and proper conduct (Barman, Hebert, and McCaskill, 1986, p. 3). Elders were repositories of cultural and philosophical knowledge as well as transmitters of such information. From the stories told in the evening by elders, children learned their history, science, spiritual beliefs, customs, and values.

Current Educational Goals and Aspirations

Native parents, as previously described, have traditionally assumed responsibility for educating their children. However, under the auspices of many church and government schools, many parents did not understand the objectives of the educational programs and did not become actively involved in the formal education of their children(Battiste, 1986).

Ingram's and McIntosh's Education North Evaluation Project in 1981 suggested that the overall goal of improving educational services in northern communities could be met only if a number of identifiable objectives were met, and if locally sensitive educational materials and curricula were developed. Curricula would be seen as credible only if they reflected community values. Thus the curricula should include native languages as well as English and/or French. A teacher who is fluent in the native language can more effectively encourage members of the community to re-discover their own language, encourage the young to learn and use it, and strengthen and enhance cultural identity.

Northern communities also wish to see their local traditions, values, and culture taught through local history and geography. The Metis Association of the Northwest Territories (1987), in its position paper, asked the government to ensure that course content reflect the history, present position, and aspirations of the people to whom the courses are directed.

Writing about the education of the Micmac in his article, "Micmac Literacy and Cognitive Assimilation," Battiste (1986) stated that "Bilingual, bicultural education must be the foundation upon which different knowledge bases and cultural processes are met with respect and chosen according to family preference" (p. 41).

Northern native residents, for the most part, do not want to cling to empty sentimentality. They realize that the value of building a new future on a rich heritage requires careful examination of many alternatives. However, native leaders, such as Tourangeau (1987), believe that "Native education must be looked at from the perspective of the native communities themselves and not

from the perspective of someone who is outside looking in" (p. 47). Native leaders feel that native people should identify goals for their children and control institutions and processed to accomplish these goals.

Even though many northern natives live in a traditional and simpler society, many wish to benefit from and make contributions to the more complex technological society. Many recognize that "We are in a period of technological and social change..." (Bates, 1986, p. 6). Their challenge is to obtain such an education while maintaining their heritage.

A number of native leaders, including Verna Kirkness, argue that a key to progress in native education is the employment of native teachers. These goals may be achieved in several ways, including the use of distance education to supplement current programs, some of which train native teachers in community settings (Platter and Paulet, 1985).

Issues in Teacher Education

Five core issues in teacher education, identified by Williams and Wyatt (1987), have been shown to have particular relevance to the education of native teachers. They are:

1. community involvement;
2. incorporation of native language and culture;
3. decentralization;
4. entrance requirements and paraprofessional training; and
5. program quality.

Community Involvement

Community-based teacher training programs are ones in which all or a major portion of the coursework is taken in an off-campus setting. They are located in the community of the teachers in training or in an area that does not involve relocation for the student. Locating a centre at or near a school enhances communication between students, teachers, and community leaders.

These programs provide a number of advantages to local communities. Native Indian, Metis, and Inuit peoples of Canada find a sense of community in the extended family structure. The spiritual elements of Native communities are strong and based on tradition. Since family ties and other support systems may be severed by a move from the community, community-based programs can delay adjustments until students are firmly established as students. Students with families can enrol without abdicating their familial and parental responsibilities.

Community involvement is a critical element of community-based teacher education programs. The Mount Currie Teacher Training Program, Lil'wat Reserve, in British Columbia, offered by Simon Fraser University, is an example (Williams and Wyatt, 1987). Native participation was considered essential in every phase of its development. Band members assisted university consultants in designing the program proposal, choosing the actual site, and interviewing and selecting student teachers and instructors.

Even enthusiastic supporters of community involvement recognize its limitations. Given the close and pervasive kinship ties in reserve communities, it is virtually impossible to avoid situations where relatives make decisions about

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each other. Another concern relates to the use of local talent. Although some administrators are eager to incorporate local experience, others are more cautious in modifying department curriculum guidelines.

Native people often are hesitant to support their own people in positions of responsibility. Student teachers just completing their training find that some people in the community have difficulty acepting them in their new role as teachers. For many years they have identified teaching as a profession occupied by non-Indians from outside their community. A serendipitous benefit of having native student teachers might be their influence in drawing parents into the school.

Incorporation of Native Language and Culture

Like community involvement, the incorporation of native language and culture is essential to a successful native teacher training program (Segall, 1979). Not only can native teachers provide a positive role model, they can also bring to the classroom native linguistic and cultural resources. However, in the author's experiences, many young people who are interested in becoming teachers do not understand or value the traditional culture. They can, of course, transmit the contemporary native culture. In some Native Indian Education Programs (NITEP), students take linguistic courses that enable them to read and write their native language. Their courses in English composition and Canadian literature also broaden their perspectives. However, teachers working with native students should also be aware of their students' learning styles (More, 1987). The key to success appears to be the development of skills and attitudes that enable young adults to survive in a modern society without discounting their heritage.

Decentralization

Rural areas of Canada, and Indian reserves in particular, as a result of high mobility, have often born the brunt of teacher shortages. "Urban-bred teachers frequently see non-urban schools as temporary diversions in a career path that leads to the city" (Parket, 1972, p. 37). At the same time, native students often find it difficult to adjust to life away from their community. In Manitoba, the Brandon University Northern Teacher Education Program (BUNTEP) provides instruction and supervises student teaching programs in a number of local communities. Most courses are completed in home communities with the assistance of local administrators and travelling professors. Many native student teachers have a choice between studying in centralized urban campuses or in their own communities.

Entrance Requirements and Professional Training

In Canada, all of the native teacher training programs make provisions for mature-student admissions, and several grant advanced standing. Community-based teacher training, as discussed earlier, tends to attract mature students who do not have the academic entranc · requirements of a traditional program. Grants from the Department of Northern Affairs and Canada Manpower have enabled native people to work effectively in educational settings without a high school diploma. These jobs are in such areas as counselling, cultural resource personnel,

teaching aides, and language teachers. In 1968, the first native teacher training program was introduced as a pilot project in the Northwest Territories. The intention of this program was to train teaching aides to the level of teachers. In 1983, a program with the same objective at Brandon University (Program for the Education of Native Teachers (PENT), was declared the most innovative educational program in North America (Paulet, 1988). There is growing evidence to support the contention that many talented individuals can enter the leaching profession when flexible academic requirements are accepted at universities. Cram (1985) in "Northern Teachers for Northern School" wrote:

> Ten years after its beginnings as a tentative response to a training need for Quebec Inuit teachers, the Native and Northern Eduation program has reached relative maturity. Some twenty-nine have received Provincial or Territorial Certification, and of these twenty-nine who have graduated since 1981, eighteen also hold the McGill Certificate (p. 22).

Program Quality

Administrators of NITEP programs vehemently contend that community-based programs must remain in regular teacher training programs governed academically by a traditional institution. This ensures the program's credibility even when delivered at a distance. This credibility by association is significant to the individuals in the off-campus training centre when dealing with a host of supporting institutions and professional organizations. Generally, the content and quality must remain flexible enough to meet the unique needs and aspirations of the native communities.

High-quality distance-education programs are currently being delivered from coast to coast in Canada. Using the same five criteria for effective off-campus teacher training programs, we will examine the potential benefits and limitations of using distance education as a supplement to current programs.

Community Involvement

To enhance local community involvement, education programs should be designed and delivered with creativity and sensitivity (Ferguson, 1984). This is particularly true of distance-education programs because the locus of control is usually hundreds of miles away from the "scene of action."

Distance-education programs can be used to enhance community involvement. However, a number of challenges face individuals delivering off-campus courses. The course design and delivery should consider potential influence of peer pressure on student learning (Kay, 1987). The degree and quality of interaction will be affected by both internal and external pressures. It takes relatively little time to contact local leaders and let them control the scene. While this aproach will lead to fewer failures, it will also ensure fewer new participants to benefit from the new programs. North Island College (Paulet, 1987) recognized the importance of contacting a variety of people being served in northern British Columbia. Four vehicles travelled to the isolated communities. The vehicles served as a visible reminder to the northern residents that someone in the south cared. Scholars, poets, and labourers met at the vehicles and discussed their

educational aspirations. Sadly, in 1987 only one vehicle was used. Local representives were asked to spread the good news and assist where possible.

In the Brandon University Northern Teacher Education Program (BUNTEP), resident administrators and counsellors work closely with the band councils, school administrators, teachers, students, and local residents. This superstructure could be used to support a truly community oriented distance-education program. Trained individuals are in key positions to help community leaders define their educational needs. Also, they can help the leaders communicate their aspirations to individuals and agencies prepared to support the local communities.

Telephone systems can enhance the "bridging" of ideas within and between the isolated in communities (Paulet and Ferguson, 1985). In 1986, the Manitoba Telephone System provided a reduced telephone rate to encourage Post-secondary institutions to become familiar with the benefits of teleconferencing. Mandville (1987) enthusiastically supported teleconferencing at Memorial University: "in my opinion, the combination of videotape and teleconferencing improves the quality of distance teaching" (p. 150). While some students were able to complete their assignments with limited encouragement from their instructors, other benefitted from regular phone calls.

On-site contact individuals, sensitive to the problems of isolated communities, can help local residents regain power, prestige, and hope, all of which have almost disappeared as a result of technological acculturation. Indeed, the new technology can be used to enhance community involvement. The first challenge may be to convince the students that outsiders truly care about the individual needs and concerns of the local community. Some northern residents make cynical comments about programs designed in the south to meet the needs of bureaucrats with overt and covert interests. Students in the north are all too aware that technology can be used to force residents in isolated communities to conform to standards established in a "distant land". In addition to open hostility, administrators must deal with conflicting opinions within the communities. For example, in some northern communities there are individuals with treaty rights that enhance their educational opportunities and other individuals, with similar aspirations, who have little or no political power. The latter frequently contend that it is difficult to get excited about new programs and promises when they lack protection by custom and the law.

Incorporation of Native Language and Culture

Distance-education programs can be designed to enhance communication with and between local residents. Where possible, local customs should be acknowledged. Only through shared experiences based on mutual respect and understanding can individuals learn about each other and question their own values. The importance of the local Inuit language and culture was dramatically emphasize by Padlayat and Winkler (1987). Education in traditional Inuit culture was holistic. All members of the community played a role in the child's total growth and development, and learning was not split into categories. Children acquired skills and knowledge at an individual pace, and they grew up in an environment in which mutual aid was the key to survival and competition had no place.

The introduction of schools in Northern Quebec in the late 1940s changed this situation dramatically. It resulted in the divorce of school from community and disrupted traditional patterns of learning. It created a discrepancy between the child's culture and the culture of the school, and this has largely been responsible for students' poor performance.

Many native leaders are concerned that few young natives can speak, read, and write in their own dialect. The leaders recognize that many individuals living in isolated comunities do not wish to live "the life of their forefathers." At large gatherings, like the International Aboriginal Conference in Vancouver (1987), the predominant language used in the lecture halls was English. Authors of distance-education print material designed for isolated communities should recognize the limitations of seeking a common symbol system for all the communities. Providing native leaders with administrative training will be helpful, especially if the local leaders serve as catalysts in their own communities. Native leaders can serve as consultants to individuals and institutions developing and evaluating distance-education courses and programs.

Decentralization

A number of geographical features of Canada, the second largest country in the world, dictate that decentralization play a significant role in a distance-education program. Smith (1987), describing the situation in the Northwest Territories, stated that "distance education must be good for us, because we sure got lots of distance" (p. 146). It is not surprising that in such a large country there are varieties of temperaments. Many residents in isolated communities aspire to live in large centres like Toronto, Montreal, and Vancouver. They desire basic skills that will make them employable outside of their community. Other northern residents are content to live in their home community and want training appropriate for their particular lifestyle. Distance-education programs can provide individual instruction, but most cost-effective programs are designed for mass production. Creative adaptations must be considered!

Team effort can maximize the services provided with limited funds. Blaner and Simand (1987) described how the Inter-University North, (IUN) model in Manitoba emphasized cooperation and shared responsibility: "From the beginning all three institutions divided the work evenly — third of the courses offered at each university — so that the smallest (Brandon) took responsibility for as many courses as the largest (Manitoba). This arrangement continues even today" (p. 155).

Not only does the current system in Manitoba avoid unnecessary duplication, but it also provides a mechanism for efficiently using provincial resources. For example, IUN educational advisors assist students taking out-of-province correspondence and other distance-delivered courses.

Similarly, in British Columbia, northern residents benefit from agreements made between the University of British Columbia, the University of Victoria, and Simon Fraser University. According to Yerbury (1987): "With their own special resources and facilities, they have been able to provide courses and programs of particular interest to adult students seeking to improve their formal qualifications..." (p. 164).

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Post-secondary institutions across Canada are now responding to more and more admission applications from northern adult learners who have diverse, and often extensive, prior educational experience and who wish to complete specific courses or programs that are directly related to their occupations and interests. Organizations such as the Open University Consortium of British Columbia, the Association of Atlantic Universities, and the Council of Ontario Universities have creatively and Cooperatively served northern governments and residents. The recent Canadian Association of Distance Education (CADE) also provides a vehicle for further sharing.

Team effort can enlarge educational opportunity and reduce costs. However, the materials themselves must be appropriate for the residents in the isolated communities. Owen (1987) stated: "... distance-learning systems learning materials and methods are expected to be flexible in content and curriculum and are consciously and systematically designed for independent study. In addition, learning materials are expected to employ a wide range of media and resources suited to the needs of these students" (p. 157).

Early attempts at Brandon University to provide print packages to supplement existing audiovisually oriented courses have proven effective in northern Manitoba (Paulet, 1986). However, experience in northern Manitoba clearly indicated that pacing is important in course delivery.

Distance-education programs are currently supplementing traditional on-campus programs and providing some degree of individualization in northern communities. However, studies by Crawford (1986) and Owen (1987) indicated that some students were not benefitting from the system. Owen noted that the correspondence courses in Alberta were serving the needs of the intellectuals who had previously demonstrated some commitment to post-secondary education rather than students who were reluctant to enter a university. Particularly relevant to northern natives was Owen's statement:

> the predominance of "urban" students in the sample (and declining importance of rural students) indicates that post-secondary distance education, similar to traditional post-secondary education, is primarily an urban phenomenon. Potential students from rural or, in the case of the northern territories, relatively isolated villages and towns perceive the isolation of home-study as unattractive (p. 161).

Many northern natives need to find a way into the system!

Entrance Requirements and Paraprofessionl Training

Forsythe (1984) emphasized the importance of providing flexible entrance requirements. "Distance-learning systems should have open entry, individual pacing, effective counselling and instructional materials which are flexible enough to adapt to alternative modes of delivery and learning style" (p. 157).

Many of the entrance requirements are established by the traditional campus-based institutions. However, in institutions such as Athabasca University, entrance requirements are adapted to the needs of their students. Many other universities across Canada are also recognizing the importance of special admissions.

Northern residents can take courses by distance delivery that will help them successfully complete a variety of post-secondary courses. A frequently underrated role that can be played by distance delivery is that of providing supplementary courses for current traditional programs. Many students who have completed a few distance delivered courses gain self-confidence and an interest in further education. Also, when program requirements are raised by governments and academic institutions, distance delivery can make it feasible for residents in northern communities to meet the new standards (Paulet, 1987).

Program Quality

At present in Canada there is a great deal of competition for limited educational funds. The powerful traditional on-campus university departments want even more of what is available. Also, there is a tendency to look upon distance education as a means of reducing costs in isolated communities. Unfortunately, for some individuals, academic prestige is purchased by shifting the funds from northern communities to vocal southern supporters. Consequently, the quality of the programs delivered in the north suffer. Not only will proponents of distance delivery have to become creative fund raisers for their current and long-term needs, but they will also become more accountable.

The quality of the distance delivery system should be determined by the manner in which it builds bridges between cultural groups within our Canadian mosaic.

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Le Tuteur et le Support à L'Etudiant en Enseignement à Distance

Céline Lebel et Bernard Michaud

Introduction

Une recension d'écrits sur le rôle des activités d'apprentissage en enseignement à distance (Landry, 1987) nous a permis de constater que certains auteurs attribuent aux activités d'apprentissage non seulement des fonctions reliées à la cognition, c'est-à-dire celles visant la réalisation de la tâche proposée, la résolution du problème ou l'atteinte de l'objectif visé (Flavell, 1979, 1981); (Lefebvre-Pinard, Pinard, 1987), mais aussi d'autres fonctions que nous avons regroupées sous le terme général de support à l'étudiant. La première partie de cet article présente une grille élaborée à partir des fonctions de support des activités d'apprentissage.

En deuxième partie nous utilisons la même grille pour vérifier comment le tuteur[2] pourrait remplir les fonctions de support à l'étudiant telles que définies précédemment. Plusieurs auteurs (Holmberg, 1974; MacKenzie, 1974; Baath et Wangdhal, 1976; Baath, 1976; Robinson, 1981; Watters, 1984; Henri et Kaye, 1985) ont déjà démontré l'importance du rôle du tuteur en enseignement à distance et décrit ces fonctions de support.

Dans un troisième temps, nous proposons le tutorat comme mode d'intervention susceptible de bien cadrer les interventions du tuteur sans négliger les besoins de l'étudiant.

1. *Les fonctions de support des activités d'apprentissage*

   L'inventaire des fonctions de support des activités d'apprentissage nous a amenés à les classer en quatre différents plans :

   a. *le support sur le plan méthodologique*, celui qui permet à l'étudiant d'acquérir, de pratiquer ou d'améliorer une stratégie de type cognitif ou métacognitif. Une stratégie de type cognitif c'est, par exemple, comment faire un résumé, s'autoquestionner, rédiger une analyse, construire un tableau, c'est-à-dire progresser dans l'atteinte de l'acquisition des connaissances du domaine d'étude (Flavell, 1981). On pourrait donner comme exemple de stratégies de type métacognitif la planification, la vérification, l'évaluation, etc. (Brown, 1981);

   b. *le support sur le plan métacognitif*, soit celui qui porte sur le contrôle conscient de son propre fonctionnement cognitif, et sur le processus d'autorégulation (planification de l'ensemble, activation des stratégies nécessaires, contrôle et vérification, etc.) (Pinard, 1987);

   c. *le support sur le plan affectif et motivationnel*: nous avons défini le support à l'étudiant sur le plan affectif comme celui qui touche les émotions et les états d'âmes (Schulz, 1985); mais également comme celui qui aborde les préférences, les attractions, les aversions qui guideraient le choix et le rejet de l'information suivant les attitudes que le sujet éprouve vis-à-vis

des objets, personnes ou événements rapportés dans un texte (Denhière et Le Ny, 1980; Langevin, 1983). Le support à l'étudiant sur le plan motivationnel concerne la mobilisation de l'énergie pour faire quelque chose, (Dufresne-Tassé, 1979), ou encore l'intervention d'un tiers pour stimuler, aiguillonner, réveiller la motivation (l'énergie, l'intérêt) chez une personne (English et English, 1976).

d. *le support sur le plan administratif*: dans la recension d'écrits susmentionnée et qui portait uniquement sur le rôle des activités d'apprentissage, aucun auteur ne fait mention du support administratif. Nous avons quand même défini le support sur le plan administratif comme celui qui permet à un étudiant de connaître l'institution qu'il fréquente, ses règles et procédures administratives; la structure des programmes; les coordonnées et les heures de disponibilité des personnes-ressources mises à sa disposition; les localisations et heures d'ouvertures des différents services auxquels il a accès.

En classant les diverses fonctions de support qu'attribuent les auteurs aux activités d'apprentissage, nous ne présumons pas que toutes les fonctions de support à l'étudiant devraient être remplies par de telles activités. Par exemple, Watters (1984) citant Baath et Wangdahl (1976) souligne que les fonctions de motivation et de feedback, tout importantes qu'elles soient, peuvent difficilement être accomplies par le matériel didactique. Il s'agit plutôt de regrouper les fonctions de support pour mieux saisir sur quels plans elles devraient être exercées. Voyons maintenant comment les fonctions de support exercées par le tuteur peuvent être classées selon les quatre plans identifiés précédemment.

2. *Le tuteur et les fonctions de support à l'étudiant*

Le tuteur est un intermédiaire qui fait partie d'un réseau de ressources d'encadrement qu'une institution met au service de l'étudiant, afin de faciliter sa démarche d'apprentissage (Abrioux, 1985, p. 180). C'est donc la personne toute désignée pour apporter à l'étudiant du support sur les plans méthodologique, métacognitif, affectif et motivationnel et administratif.

a. *Sur le plan méthodologique*, le tuteur peut:

- expliquer la démarche pédagogique et le mode d'évaluation à l'étudiant (Abrioux, 1985)
- l'aider à prendre connaissance du matériel (Abrioux, 1985)
- aider l'étudiant à comprendre le matériel du cours afin qu'il puisse le reproduire fidèlement à l'examen (si la préoccupation première de l'étudiant est de réussir aux examens) (Henri et Kaye, 1985)
- offrir conseils et support aux apprenants dans leurs travaux (Holmberg, cité par Watters, 1984)
- résoudre des problèmes de difficultés personnelles d'organisation du travail rencontrées par l'étudiant (Robinson, 1981; Flinck, 1978)
- orienter son souci d'efficacité du côté des méthodes de travail individuelles de chaque élève (Conseil supérieur de l'éducation, 1982)
- échanger avec l'intéressé sur l'organisation de son travail, les difficultés qu'il rencontre et les progrès qu'il accomplit (Conseil supérieur de l'éducation, 1982)
- accorder une attention particulière à la méthode de travail de l'apprenant (Tournier, 1978)
- faciliter le travail d'étude personnel des participants (Kaye, 1982)

b. *Sur le plan métacognitif*, le tuteur peut :
- aider l'étudiant à s'auto-discipliner et à s'auto-former (Abrioux, 1985)
- aider l'étudiant à enrichir sa démarche d'auto-apprentissage (Abrioux, 1985)
- aider les étudiants à corriger leurs erreurs et à contrôler leurs progrès (Baath, 1976)
- faire le lien entre les connaissances acquises et l'expérience avec les nouvelles connaissances à acquérir (Baath et Wangdahl, 1976)
- aider les étudiants à "apprendre à apprendre", afin de devenir de moins en moins dépendants de leur tuteur (Moore et Poppino, 1983)
- aider les étudiants à développer leurs compétences en tant qu'apprenants (Henri et Kaye, 1985)
- aider les étudiants à "apprendre à apprendre" et à développer leurs capacités d'autodidactes (Henri et Kaye, 1985)
- encadrer l'apprenant pour qu'il puisse éventuellement cheminer de façon autonome (Henri et Kaye, 1985)
- aider les participants à développer leur compétence et leur confiance en soi afin qu'ils puissent organiser et planifier leur travail individuel d'étudiant à distance et organiser leur emploi du temps eux-mêmes (Kaye, 1982)

c. *Sur le plan affectif et motivationnel*, on attend du tuteur qu'il:
- établisse un contact personnel avec l'étudiant afin de le motiver. Si, par les échanges qu'il entretient avec les intermédiaires, l'étudiant réussit à résoudre ses problèmes, il y aura de fortes chances qu'il persévère dans sa démarche de formation (Abrioux, 1985)
- stimule l'intérêt de l'étudiant et encourage ses progrès (...) au moyen de l'évaluation (Abrioux, 1985)
- stimule, appuie et raffermisse la motivation de l'étudiant (Baath et Wangdhal, 1976 cités par Abrioux, 1985)
- apporte à l'étudiant aide et soutien à l'apprentissage et stimule son rythme de travail (Abrioux, 1985)
- encourage les étudiants à poursuivre (Abrioux, 1985)
- stimule l'intérêt et la motivation de l'étudiant par des appels téléphoniques (Flinck, 1978)
- communique avec l'apprenant d'une façon personnelle et lui réponde dans un bref délai (sinon l'effet de motivation est perdu) (Wangdahl, 1976)
- grâce à des rencontres périodiques, contribue à réduire le sentiment d'isolement social de l'apprenant (Wangdahl, 1976)
- résolve, avec les participants, des problèmes (...) personnels ou familiaux qui ont des répercussions sur leurs études (Kaye, 1982)

d. Enfin, *sur le plan administratif*, le tuteur pourra:
- expliquer à l'étudiant les procédures administratives auxquelles il doit se soumettre (Abrioux, 1985)
- (donner) des informations sur le régime des études (conditions d'admission, reconnaissance des équivalences, inscription, contenu des programmes, etc.) (Abrioux, 1985)
- conseiller et orienter un participant éventuel pour l'aider à prendre une décision sur le programme à suivre; (Kaye, 1982)

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- résoudre, avec les participants, des problèmes (...) administratifs vis-à-vis l'organisme de télé-enseignement; (Kaye, 1982)

3. *Le tutorat comme mode d'intervention pédagogique*

Pour réaliser les fonctions de support qu'on attribue au tuteur, nous avons déjà proposé (Michaud et Lebel, 1987) que le tutorat soit retenu comme mode d'intervention pédagogique. La définition que nous en donnions alors était la suivante :

> Le tutorat est un mode d'intervention pédagogique pratiqué par une personne-ressource et qui porte sur la démarche d'apprentissage de l'étudiant en permettant à ce dernier de développer son autonomie dans l'atteinte des objectifs du cours.

Mode d'intervention pédagogique, c'est-à-dire une manière d'intervenir dans la démarche de l'étudiant;

...pratiqué par une personne-ressource c'est-à-dire un tuteur rémunéré par l'institution, et auquel l'étudiant peut faire appel;

...qui porte sur la démarche d'apprentissage de l'étudiant pour bien démontrer que les objectifs du tutorat (autonomie et réussite du cours) se réalisent dans le cadre du cheminement de l'étudiant;

...en permettant à ce dernier de développer son autonomie, rejoignant ainsi les fonctions de support sur les plans méthodologique et métacognitif telles que décrites par les auteurs ci-haut cités;

...dans l'atteinte des objectifs du cours, afin que le tuteur ne soit pas confronté à des besoins et des attentes fort différents voire divergents de la part des étudiants.

Le tutorat indique donc *sur quoi* porte le travail du tuteur (développement de l'autonomie et atteinte des objectifs du cours) et *dans quel esprit* ce travail doit tre réalisé.

Discussion et conclusion

Comme nous pouvons le constater, les auteurs précités ne remettent pas en doute la capacité du tuteur d'apporter à l'étudiant le support dont il a besoin. De façon générale, il nous semble important cependant de bien camper les responsabilités du tuteur afin que celui-ci ne vienne pas "doubler" les fonctions des activités d'apprentissage. D'autre part, il ne faudrait pas non plus que les concepteurs de cours abandonnent tout entre les mains du tuteur puisque les écrits que nous avons recensés sur le rôle des activités d'apprentissage en enseignement à distance (Landry, 1987) nous ont démontré que les activités d'apprentissage ont également des fonctions importantes de support (Lebel et al., 1988).

a. *Sur le plan méthodologique*, le tuteur devrait essayer de comprendre et d'identifier le besoin de l'étudiant en lui posant des questions, en le renvoyant au contenu du cours (si le tuteur est persuadé que l'étudiant trouvera là ce qu'il lui faut). Il pourrait aussi essayer d'identifier

certaines croyances "misconceptions" qui peuvent faire que l'individu répète certaines erreurs dans la réalisation de certaines tâches. Les erreurs que fait l'étudiant peuvent fournir des informations sur ses structures de connaissances et il faut les connaître pour savoir comment intervenir de façon appropriée (Deschênes et al.,1987).

b. *Sur le plan métacognitif*, ce que nous apprennent les auteurs ne nous permet pas d'identifier la nature des interventions qu'on pourrait effectivement demander à un tuteur de faire.

c. *Sur le plan affectif et motivationnel*, certains auteurs comme Baath (1976) sont convaincus que la fonction de motivation est l'élément le plus essentiel du rôle du tuteur, fonction, rappelons-le, qui peut difficilement être remplie par du matériel didactique (Baath et Wandghal, 1976). Il ne faudrait cependant pas conclure trop rapidement que la fonction de motivation est l'apanage du tuteur seul, et que les concepteurs de cours n'ont pas à s'en préoccuper. Nous avons déjà cité plus haut la recension d'écrits de Landry (1987) sur le rôle des activités d'apprentissage en enseignement à distance; Kaye (1982), pour sa part, accorde aux trois "médias" importants de l'enseignement à distance, les imprimés, l'audio-visuel et les travaux pratiques, non seulement des fonctions pédagogiques mais aussi de nombreuses fonctions de motivation.

Il nous apparait important que sur ce plan, en particulier, le tuteur situe bien son intervention dans le cadre des objectifs du cours, plutôt que d'aider l'étudiant à résoudre ses problèmes personnels, même si ceux-ci peuvent avoir des répercussions sur ses études.

C'est notre pratique de l'enseignement à distance qui nous a amenés à suggérer la définition du tutorat ci-dessus, afin d'éviter au tuteur de se retrouver en terrain miné, confondu avec un thérapeute ou un conseiller familial, par exemple. Nous avons voulu également bien clarifier la responsabilité que l'institution prend face à l'étudiant via les interventions de son tuteur.

d. *Sur le plan administratif*, le support que peut apporter un tuteur jouxte le support sur le plan affectif et motivationnel. En effet, si le tuteur aide par exemple un étudiant à surmonter les aversions que ce dernier peut ressentir face aux procédures administratives, ce support évitera peut-tre un abandon ou une non ré-inscription.

Enfin, pour ce qui est du *tutorat*, il apparait que ce mode d'intervention pourrait bien cadrer et resserrer les interventions du tuteur, et devenir, au-delà des fonctions de celui-ci, une "tournure pédagogique d'esprit."

En conclusion, nous avons vu que les fonctions du tuteur, celles des activités d'apprentissage voire des médias se recoupent régulièrement chez les auteurs en enseignement à distance. Il serait à souhaiter que les concepteurs de cours apportent un soin minutieux à décrire l'agencement et le mode d'utilisation des ressources et des outils mis à la disposition de l'étudiant pour l'aider dans sa démarche d'apprentissage. Personnes-ressources, activités de support et média pourraient ainsi jouer des rôles complémentaires plus efficaces.

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Notes

1. Voir à ce sujet Lebel et al., 1988.
2. Le terme tuteur est employé au sens large, et couvre également les appellations de personne-ressource, conseiller, facilitateur, etc. Le tuteur tel qu'on l'entend ici n'est cependant pas un enseignant.
3. Voir à ce sujet Deschênes et al., 1988.

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The Provision of Student-Support Services in Distance Education: Do We Know What They Need?

Gordon Thompson

Introduction

There is a rapidly growing literature on the provision of support services to students in distance-education programs. Much of this literature is prescriptive and is premised upon certain assumptions about the characteristics of students who enrol in distance-education programs and about the nature of distance education itself.

Students who enrol in distance-education programs are different from their on-campus counterparts. Distance-education students tend to be older and to be more diverse in their educational backgrounds than on-campus students. Distance-education students tend to be more independent and autonomous learners. Research on the differential characteristics of students who register for distance-education programs suggests that (some) distance-education programs attract students who are less likely to seek instructional support from their teachers/tutors than their on-campus counterparts.

The process of self-selection by which some students elect to register for distance-education programs, while others do not, may mean that the need for student-support services is greater among those who tend not to register for distance-education programs than among those who do. If educational institutions seek to attract and serve larger numbers of those students unable to attend on-campus classes, they may have to develop increased and highly visible student-support services.

Daniel and Marquis (1983) discussed how to achieve an optimal balance between interaction and independence in distance education. But what is optimal for those who are presently attracted to, and register for, distance-education programs, may not be optimal for potential and prospective students not presently participating in distance-education programs.

The terms "student-support services" and "distance education" deserve early clarification. Student support services include a wide range of functions including admissions, registration and records, examinations, information services, advising and counselling, student advocacy, and tutoring/instructional support (McInnes-Rankin and Brindley, 1986). In addition, library service counts as a significant student-support service (Slade, Whitehead, Piovesan, and Webb, 1987).

The tutoring/instructional support function is arguably the most vital because it is so directly associated with the learning process itself. Accordingly, for the purposes of this paper "student-support services" will be considered within the limited context of the tutoring/instructional support system.

McInnes-Rankin and Brindley define tutors as people whose interaction with students are based on a particular course. They give support on course content and administrative matters, and provide the human voice amongst the printed materials. Their functions include marking and commenting on assignments, discussing course content, and assisting with course evaluation. They may also be involved in organizing laboratory sessions, seminars, or discussion and self-help groups. Tutors are subject-matter experts for the particular courses they facilitate and have similar qualifications to staff teaching at campus-based institutions (1986, p. 64).

"Distance education" lacks a singular and widely shared definition, although there is general agreement on some of its components (Thompson, 1986). One cause of this diversity is the tremendous variety of forms of distance education and the increasing application of a variety of educational technologies. Scales (1983) provided a typology of distance education which differentiated on the dimension of the level and kinds of support provided to students in distance-education programs. Her typology consists of six levels of support as follows:

> Type I: Instruction is delivered through any one or a combination of one-way non-interactive media (e.g. print, audio, or video).
>
> Type II: Provision is made for delayed two-way communication between learner and instructional agent (e.g. interaction through the mail).
>
> Type III: Provision is made for coincident two-way communication between learner and instructional agent (e.g. interaction through telephone dialogue or with a computer).
>
> Type IV: Provision is made to permit remote group interaction among learner, agent, and others (e.g. through teleconferencing or live - interactive video).
>
> Type V: Provision is made for occasional face-to-face interaction (e.g. seminars or clinical experiences).
>
> Type VI: Fully supported instruction is supplied at a location nearer the learner than the "mother agency" (e.g. an extension program, a lecture series provided in a distant community, or a satellite campus).

Of particular relevance to this paper are those forms of distance education in which there is interaction between the learner and the instructor (i.e., excluding Type I), but significantly less than would be available to a student in a traditional classroom context (i.e., excluding Type VI). In other words, this paper is focussing upon distance-education programs in which the learner is in a learning context that requires the student to be more autonomous and self-directed than students in a typical classroom setting. These parameters form the basis on which distance-education programs will be discussed in this paper. The balance of the paper will discuss selected research on the characteristics of distance-education students and implications for the provision of student-support services.

Do Students in Distance-Education Programs Differ Significantly from Students in On-Campus Classes?

Coldeway (1986) identified several dimensions in which distance-education students differ from their on-campus counterparts. Distance-education students are older and tend to have a wider range of educational background, of prior educational experience, of academic ability, and of demographic and personal characteristics (e.g. age range, sex ratio, family situations, work experience). Coldeway concluded that distance-education programs serve a unique population of learners. However, information about distance learners is limited and many institutions lack data on the characteristics of their distance-learning population (1986, pp. 86-87).

It has been suggested that students who enrol in distance-education programs tend to be independent and self-directed. Such attributes may be important for success in distance-education programs, which permit restricted interaction among students and between students and instructor. Wedemeyer and Childs note that correspondence study is often referred to as a "hard" method by which to learn. And, in the sense that it makes demands on the student, it is hard. In correspondence study, the student is, to a degree, "on his own." He sets his own deadlines, he makes his own decisions, he arrives at his conclusions independently, he learns by doing. He learns to organize, to be systematic, to follow directions, to apply his knowledge to problem solving, and to express himself logically and orderly.

It is true that not all correspondence students develop these skills equally, and it is also true that some fall by the wayside because they cannot or will not exert the necessary effort. But the rule is absolute that, unless the correspondence student measures up to these demands in some degree, he cannot possibly be successful.

There is also evidence that many students in distance-education programs do not seek, nor take much advantage of opportunities for increased interaction with instructors. For example, Thompson and Knox (1987a) reviewed a number of studies on provision of telephone tutoring for students in distance-education programs. In general, students initiated relatively few telephone calls to instructors even when invited to do so. For example, Orton (1978) described an experiment in which correspondence students were invited to telephone their course tutor whenever they felt it necessary to do so. He reported that the reactions of students and instructors to telephone tutoring was very positive. Nonetheless, only 31.5 percent of the students actually called their instructors. Similarly, Ahlm (1972) reported that only 12 percent of the students in her study initiated calls to their tutors. Similar findings have been reported by others (Flinck, 1978; Holmberg, 1985). It may be that many students who enrol in distance-education programs prefer to pursue their studies independently and without much interaction with their instructors.

Beijer (1972) investigated student preferences for various instructional treatment alternatives among students who registered in a correspondence study program. He reported that 23 percent of the students indicated a preference for traditional correspondence study supplemented by telephone contact with the teacher. Surprisingly, 33 percent indicated a preference for traditional correspondence study alone, that is without telephone contact. Similarly, Potter

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(1983) investigated whether students enrolled in correspondence study preferred the traditional correspondence model, in which interaction between the student and the tutor is minimal, as correspondence study supplemented by face-to-face or telephone interaction. He reported that 29 percent of students indicated a preference for correspondence study with minimal interaction with the tutor.

Kaye (1987) observed that while computer-mediated communication has great potential in distance education:

> The educational assumptions underlying course design and student learning strategies must be consistent with an active, cooperative, and group involvement of learners, otherwise the technology will merely be used as a substitute for notice-boards, written mail or one-to-one telephone contact; but it is not evident that distance learners, used to studying alone, will want to adopt a conferencing medium which requires active group involvement (1987, p. 164).

There is also evidence that many students in correspondence study programs value the freedom and independence of this instructional mode (Flinck, 1979; Glatter and Wedell, 1971). In addition, it has been reported that students who register for correspondence study courses indicate that one of their major reasons for selecting that instructional mode is that it allows them to determine their own pace of study (Flinck, 1979; Glatter and Wedell, 1971).

Finally, there is evidence that students in correspondence study have the cognitive style of field-independence (Moore, 1976; Thompson and Knox, 1987b). Field-independent persons tend to be more independent and autonomous, whereas field-dependent persons have a greater need for the provision of structure and reinforcement. Field-dependence is also associated with a preference for being with other people, whereas field-independent persons have a more impersonal orientation (Witkin, Moore, Goodenough and Cox, 1977).

The attributes associated with the cognitive style of field-independence appear to be better suited to the nature and demands of correspondence study than those associated with field-dependence.

In summary, distance-education students are more likely to be characterized as independent, autonomous learners who value the opportunity to control the pace at which they learn. In addition, many seek only limited interaction with their instructors.

The Provision of Differential Student Support Services

Cronbach and Snow (1977) proposed that learner differences can and should be taken into account in the planning and execution of educational activities. The best instructional strategy for one student may not be the most effective instructional strategy for another student because of significant differences in the personal characteristics of the two students. A corollary of this view is that educators should seek to accommodate significant learner differences and to vary their instructional strategies in order to optimize educational outcomes for each student.

Instructors can use various strategies in the classroom which are differentially effective for their students. For example, some students require a high degree of structure, frequent reinforcement, and reassurance that they are doing well.

Bandura (1982) has provided a framework to explain how some people are more likely than others to persist at a given task. In distance education, however, the instructors' opportunities to know students individually and to respond differentially to them are constrained. Peters (1983) proposed that most distance-education programs resemble mass production and distribution systems, providing highly uniform course materials and instructional support systems. Such programs are constrained from recognizing and responding to significant learner differences.

Can we provide different levels of instructional support to students in distance education so as to respond optimally to their varying needs and preferences? A corollary question is the following: Should we design and implement instructional support systems for the more independent and autonomous student, or should we seek to provide instructional support for the less independent and less autonomous student as well? By "independent" and "autonomous" I refer not only to attitudinal factors but also to skill levels. In other words, to what extent does a student prefer the less structured and more independent format of distance education? Does the student have the necessary skills to succeed in an instructional mode characterized by reduced opportunities for interaction with the instructor and with other students? As Wedemeyer and Childs (1961) noted, those students who do not possess such attributes are "at risk." Even should they enrol in distance education they are unlikely successfully to complete their studies.

Some authors have proposed that we identify such "high risk" students and actively discourage them from distance-education studies. For example, Feasley stated: "In summary, present long-distance students do differ from on-campus students but not nearly as much as will potential distance learners. The important work remaining is to identify those students who will not be successful in distance education and to persuade them to choose the classroom instead" (1983, p. 32). But how do we reconcile this view with the idea that one of the primary objectives of distance education is to increase accessibility? Can we not design and implement instructional support systems for potential distance-education students who may not have well developed learning skills?

One of the major complications of this approach is the tendency to employ uniform student-support strategies in distance-education programs. For example, the provision of an instructional support system such as systematic telephone tutoring (Flinck, 1978) is typically implemented on a system-wide basis and provided to all students. Alternately, the estimated cost of such a support system may discourage its implementation when costs are estimated on the basis of provision to all students. Indeed, the high costs of opportunities for real-time interaction between students and their instructor (e.g., teleconferencing or computer-based communication) often frustrate their implementation (Daniel and Marquis, 1983).

But is it reasonable to assume that students would equally seek and equally benefit from such support services? It has been suggested that costly instructional services be selectively provided to those for whom it is expected to provide the greatest benefit (Bracht, 1970; Thompson and Knox, 1987a). Decisions on the provision of student-support services are necessarily connected with decisions about the "target" population. Distance-education programs that attract a wide range of students, including those without developed learning skills, will be obliged to provide increased instructional support services. Large-

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scale distance-education programs will necessarily be less responsive to individual student needs than programs serving a smaller number of students.

Nonetheless, as Sewart (1982) has observed, greater instructional flexibility can be achieved in distance-education programs if they seek to be responsive to their students. One example of such flexibility is suggested by Holmberg (1979), in which students could exercise some control and personal choice in course assignments.

Conclusion

This paper has proposed that the selection and provision of student-support services in distance education should be determined after we have decided whose needs are to be met. The research discussed in this paper suggests that students who register for distance-education programs tend to differ from their on-campus counterparts. They tend to be more autonomous and independent and may require less student-support than other students. Indeed, some of them appear to prefer to have minimal interaction with their distance-education instructors. But if we wish to attract and serve a broader range of students (and particularly those who might be deterred by minimal interaction and support) we should enhance student-support services.

With additional research, we will be able to determine whether we can attract, and adequately serve, a broader clientele through enhanced student-support services. We ought also to investigate the extent to which the "industrial production model" (Peters, 1983) can be avoided in providing student-support services in distance education.

As Sewart (1982) suggested, we have tended to devote too much of our time, energy, and resources to the development of courseware in distance education and too little to the instructional process that follows courseware preparation. For example, we frequently encounter the word "delivery" in discussions of the provision of distance-education programs. But surely the production of clear and effective courseware materials is a necessary but not sufficient condition for successful learning outcomes. We must do more than "deliver" a set of instructional materials no matter how well designed they may be. While some students may be more able to succeed with minimal instructional support, a distance-education program that seeks to increase accessibility must provide adequate student-support services. Increased accessibility to failure is no victory.

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La Formation à Distance: Des Choix Technologiques et des Valeurs

France Henri et Thérèse Lamy

Introduction

Reconstituer la filière historique de la formation à distance c'est nécessairement remonter à l'émergence du concept d'éducation permanente et au développement du domaine; c'est établir le recoupement entre les valeurs rattachées à ce concept et celles que privilégie la formation à distance. Par la remise en question des formes d'éducation traditionnelles inadaptées au profil de l'adulte, à son style de vie et à ses besoins, l'éducation permanente mise sur les capacités de l'adulte d'apprendre à apprendre, lui reconnaissant ainsi une autonomie face à son apprentissage; elle adopte des modes d'intervention et des formules pédagogiques adaptées à l'adulte, misant sur l'expérience; elle s'efforce de rejoindre le plus grand nombre de ceux qui se préoccupent d'accessibilité et de démocratisation. C'est dans cette optique que l'on peut faire un survol de l'évolution de la formation à distance et examiner l'état actuel de son développement.

Les pratiques de la formule de formation à distance sont devenues de plus en plus populaires dans les établissements d'enseignement traditionnels, sans toutefois avoir su y couserver leurs options pédagogigues prennieres. Ainsi la formation à distance ne risque-t-elle pas de s'éloigner de la perspective andragogique qu'on lui reconnait et du sens qui a guidé son émergence encore récente? La réflexion dont nous rendons compte ici a justement pour but de retracer la spécificité de la formation à distance. Pour cela, nous avons voulu identifier les valeurs qui la sous-tendent et observer ses manifestations technologiques.

A la Recherche du Sens à Donner à la Formation à Distance: A la Recherche de sa Specificité

La formation à distance est désormais reconnue comme une formule pédagogique efficace qui réfere à des modes d'intervention qui lui sont propres. En observant les pratiques de la formation à distance, et les choix technologiques qui en découlent, on remarque une importante disparité dans les façons de faire. On peut distinguer deux grandes approches de la formation à distance: la première s'inspire d'un mode de production artisanal tandis que l'autre procede selon un mode industriel ou quasi-industriel. Dans le premier cas, la formation s'adresse le plus souvent à un petit nombre, les investissements en ressources humaines et materielles sont limitées et la chaine conception-production-encadrement -diffusion des cours est intégrée dans la tâche de seulement quelques personnes. Dans le deuxieme cas, la formation à distance s'appuie sur

un processus de conception, de production et de diffusion fondé sur la division du travail et la spécialisation des tâches dans un cadre organisationnel complexe.

Il est aisé de constater que d'un établissement à l'autre, la formation à distance n'est pas soumise à des critères uniformes de fonctionnement. Pourtant, les écarts qui existent entre les nombreuses pratiques qui se réclament de la formation à distance sont si grands qu'on est en droit de se demander si, dans tous les cas, il s'agit vraiment de "formation à distance" tant les processus, les moyens et les façons de faire auxquels on a recours sont différents. Par exemple, lorsqu'un cours dispensé à des étudiants sur campus est transmis à d'autres étudiants rassemblés dans un lieu distant, s'agit-il de formation à distance au même titre qu'un enseignement qui se présente essentiellement sous forme de documents d'auto-apprentissage médiatisés, élaborés par une équipe pédagogique et dont la diffusion est encadrée par un service de support spécifique à l'apprentissage à distance?

Transmettre en direct, à des étudiants isolés, un enseignement conçu pour une diffusion traditionnelle sur campus peut-il faire oeuvre de formation à distance? Cette approche dénote une conception de la formation à distance fort différente de celle qui veut que le processus soit découpé en deux moments bien distincts dans l'espace et dans le temps, à savoir:

- la conception et la production d'un matériel didactique et d'un environnement pédagogique approprié: c'est ce que nous appelons l'enseignement différé;
- la diffusion de ce matériel et la mise en place de cet environnement. (Henri & Kaye, 1985, p. 102)

Deux démarches de formation à distance, deux conceptions différentes: l'une calquée sur l'enseignement présentiel et l'autre base sur l'exploitation d'un matériel pédagogique spécialement conçu pour l'apprenant éloigné.

Ces deux démarches peuvent-elles se réclamer également de la formation à distance? Nous croyons que ces deux façons de faire tombent sous le genre "formation à distance" tout en reconnaissant que les démarches pédagogiques de chacune, et conséquemment les choix technologiques qui leur sont propres, sont extrêmement éloignées ou dissemblables. Elles s'inspirent de modèles pédagogiques fort différents où les relations au savoir et aux détenteurs du savoir divergent autant que les rôles que joue l'apprenant. Les modèles pédagogiques, que ce soit en formation à distance ou non, sont porteurs du sens que l'on donne à l'acte pédagogique. Ils sont tributaires des grandes conceptions que l'on se fait de l'homme, de l'éducation et de la société. Néanmoins, ces modèles ne sont pas toujours rendus explicites et appliqués de manière consciente.

Pour rechercher la spécificité de la formation à distance nous avons voulu isoler les valeurs qui sont présentes dans les représentations du phénomène. Pour ce faire, nous avons choisi d'analyser différentes définitions de la formation à distance sous l'angle d'une de ses manifestations les plus facilement observables, en l'occurence les choix technologiques. En effet, nous croyons que les choix technologiques sont des révélateurs de valeurs très fidèles parce qu'ils sont en quelque sorte les régulateurs des modèles pédagogiques, de la dynamique d'enseignement et de l'apprentissage, et les modérateurs du rôle de l'enseignant et de l'apprenant.

La réflexion que nous avons menée tente de voir comment les choix technologiques peuvent constituer des indicateurs des options pédagogiques et du sens que l'on donne à la formation à distance. Notre démarche nous a d'abord

amené à jeter un regard critique sur quelques définitions de la formation à distance afin de mieux appréhender la représentation que certains se font du phénomène de la formation à distance. Cette étude a permis de mettre en lumière les valeurs ou dimensions axiologiques présentes implicitement ou explicitement dans les définitions et de les mettre en relation avec les choix technologiques en formation à distance.

Définir la Formation à Distance: Une Entreprise Impossible?

Plusieurs auteurs ont formulé des définitions de la formation à distance dans le but de clarifier le concept, d'en circonscrire les limites et d'en faciliter l'étude. Sans prétendre avoir fait un relevé exhaustif des énoncés de définition que l'on retrouve dans la littérature, nous en avons identifié trois types:

- les *définitions descriptives*, par exemple celles de Peters (1983), de Holmberg (1983) et de Keegan (1986); elles traduisent l'état d'une pratique à un moment donné de l'histoire du phénomène;
- les *définitions critériées*, par exemple celles de Delling (1987) et de Garrison et Shale (1987); elles établissent les jalons ou les paramètres qui nous permettent de dire si une intervention pédagogique appartient ou non au domaine de la formation à distance;
- les *définitions explicatives*, par exemple celles de Moore (1977), de Wedemeyer (1982) et de Henri et Kaye (1985); elles posent les raisons d'être de la formation à distance et les grands principes éducatifs à partir desquels elle doit être élaborée. Ces définitions s'appuient sur des visions particulières de l'éducation et du développement humain, et ne comportent que peu ou pas d'énoncés opérationnels.

En analysant ces trois types de définitions, nous avons voulu dégager les valeurs spécifiques de la formation à distance.

*les définitions descriptives

Les définitions descriptives de la formation à distance nous apparaissent restrictives et ne peuvent prétendre traduire le phénomène de manière universelle et généralisable. Elles sont le reflet d'une pratique largement tributaire des technologies accessibles au moment où elles ont été formulées. Elles réfèrent à des façons de faire exposées à la désuétude dans le contexte des rapides changements technologiques que nous connaissons présentement. De surcroît, elles ne prennent pas en compte les transformations que les nouvelles technologies ont apportées récemment à la pratique de la formation à distance.

Garrison et Shale (1987) ont analysé la définition de Keegan (1986) et concluent que les énoncés qui la composent ne correspondent plus à la réalité actuelle. Ils ont démontré que l'avènement des nouvelles technologies tend à rendre caduques trois des postulats de la description de Keegan, à savoir:

- *l'absence quasi permanente ...à groupe d'apprentissage*: cette caractéristique ne s'applique plus aujourd'hui puisque les téléconférences de tout genre ont rendu possible la diffusion des enseignements à des groupes, même à distance.

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On peut citer en exemple les pratiques développées à l'Université d'Ottawa (1988) ou la conférence téléphonique est au coeur même du processus pédagogique et constitue le véhicule principal de l'enseignement à des groupes.

- *la conception et la production de cours selon un mode industriel*: ce mode d'opération ne constitue pas un élément distinctif car il existe des établissements d'enseignement qui ont opté pour une approche artisanale afin de servir les besoins d'une clientèle réduite avec des moyens modestes, sans avoir recours à un appareil organisationnel complexe basé sur la division du travail. De plus, grâce aux nouvelles technologies interactives, on peut préparer et dispenser des enseignements à distance sans avoir recours à une structure organisationnelle complexe basée sur la division du travail.
- *le caractère individuel des apprentissages*: le caractère privé et isolé de l'apprentissage n'est plus généralisable à tous les modèles de formation à distance puisqu'au moyen de la téléconférence (téléphonique, télévisée, par ordinateur) on rend possible des apprentissages de groupe et des démarches coopératives. Les expériences de l'OISE menées par Linda Harasim (1987) ont montré que les apprentissages de groupe sont possibles à distance au moyen de la téléconférence assistée par ordinateur.

La définition de Keegan traduit une conception de la formation à distance essentiellement basée sur l'apprentissage individuel où les enseignements sont livrés sous forme d'imprimés. Par conséquent, elle sur-représente le modèle de l'enseignement par correspondance qui, aujourd'hui n'a plus la préséance que l'on lui reconnait historiquement.

Il se dégage néanmoins de la définition de Keegan, comme des autres définitions de même nature, que la formation à distance est avant tout un mode d'enseignement *accessible*, dispensé par des moyens technologiques qui doivent être à la portée de tous et capables de rejoindre le plus grand nombre. L'accessibilité est reconnue comme une valeur prépondérante.

*les définitions critériées

Pour définir la formation à distance, Garrison et Shale (1987) proposent de ne retenir qu'un nombre restreints de critères qui ne risquent pas d'être invalidés par les changements technologiques. Ce faisant, ils prétendent éviter de créer des incohérences ou une distorsion de la réalité. L'expérience a montré que l'intégration des nouvelles technologies à la formation à distance a bouleversé l'ordre et la pratique qui s'étaient établis au cours des années. Elles ont permis à la formation à distance d'atteindre un niveau d'interactivité autrefois impossible; elles ont aussi permis de concevoir l'apprentissage de groupe et de ne plus confiner le fait d'apprendre à distance à une démarche individuelle dans un contexte privé. Les nouvelles technologies transforment le concept "classique" de la formation à distance qui réfère le plus souvent à un enseignement multimédia, faiblement interactif et à la portée d'un grand nombre.

Garrison et Shale ont retenus trois critères qui, au fur et à mesure de l'évolution et de la transformation des pratiques, continueront à distinguer le phénomène et à bien le faire comprendre. Les critères essentiels, mais non limitatifs, qu'ils ont retenus proviennent de la définition épurée de Keegan. Pour eux, le processus de formation à distance doit nécessairement reposer sur les caractéristiques suivantes:

- la majorité des communications ont lieu de façon non-contigüe;
- des communications bidirectionnelles doivent s'établir entre l'étudiant et l'enseignant dans le but de faciliter et de soutenir le processus d'apprentissage;
- les communications bidirectionnelles sont médiatisées.

Les auteurs précisent que ces critères doivent être appliqués avec une vision de la formation à distance essentiellement vouée à rendre l'éducation accessible à ceux qui autrement n'y auraient pas accès.

Dans cette définition, deux valeurs se dégagent nettement: accessibilité et dialogue (communication bidirectionnelle). La première est formulée explicitement comme postulat tandis que l'autre est dérivée des critères qui caractérisent la pratique de la formation à distance.

Nous observons cependant que les arguments que Garrison et Shale ont utilisés pour invalider la définition descriptive de Keegan peuvent, au même titre, être utilisés pour rendre caduques leurs propres critères. En effet, les nouvelles technologies pourraient être introduites dans un enseignement traditionnel sur campus, le rendant ainsi conforme aux critères de la formation à distance. Cela reviendrait à dire qu'il est possible de suivre un cours à distance sur campus. Cette affirmation pour le moins aberrante nous amène à douter des critères objectifs quant à leur pouvoir de définir la formation à distance et d'en faire valoir la différence spécifique.

*les définitions explicatives

Les définitions explicatives de la formation à distance qui sont données par Holmberg (1983), Wedemeyer (1982), Bth (1979) et Moore (1977) prennent elles aussi appui sur les deux notions d'accessibilité et de dialogue. Elles en introduisent aussi une troisième: celle de l'autonomie de l'étudiant. Dans la même optique, Henri et Kaye (1985, p.27) pour leur part décrivent la formation à distance comme "le produit de l'organisation d'activités et de ressources pédagogiques dont se sert l'apprenant, de façon autonome et selon ses propres désirs, sans qu'il lui soit imposé de se soumettre aux contraintes spatio-temporelles ni aux relations d'autorité de la formation traditionnelle. [...] une formule pédagogique au potentiel accru, qui permet à l'étudiant de redéfinir son rapport au savoir et d'utiliser dans un modèle autodidactique, les ressources didactiques et d'encadrement mises à sa disposition".

On remarque dans ces définitions, en plus des éléments descriptifs, une conception ou une philosophie de l'éducation qui affirme nettement le rôle réservé à l'étudiant à titre de personne adulte et autonome.

Les Valeurs de la Formation à Distance: Pour Trouver sa Spécificité

Définir la formation à distance c'est d'abord dégager le sens à donner au phénomène en identifiant les dimensions axiologiques à la base de cette pratique, c'est aussi par la suite expliquer le processus pédagogique et les choix technologiques qui en découlent. Nous définissons de la manière suivante les valeurs de la formation à distance qui sont présentes implicitement ou explicitement dans les définitions que nous avons relevées.

L'accessibilité

L'accessibilité est la pierre angulaire de la formation à distance. Cette notion comporte plusieurs dimensions: accès à l'éducation au-delà des contraintes d'espace et de temps, des barrières économiques et psycho-sociales; accès à une nouvelle forme d'apprentissage. Les énoncés qui suivent résument ce que nous entendons par accessibilité.

Accessibilité géographique: A ceux qui n'ont pas accès aux réseaux conventionnels de formation pour des raisons d'éloignement géographique ou de handicap physique ou de pauvreté en ressources de leur milieu, la formation à distance offre la possibilité d'entreprendre ou de poursuivre des apprentissages formels en éliminant les obstacles créés par la distance physique.

Accessibilité en fonction du style de vie: A ceux qui ne sont pas géographiquement ou physiquement éloignés des services de formation conventionnels mais qui ne peuvent en profiter à cause des contraintes de temps imposées par la vie active (responsabilités professionnelles, familiales ou autre), la formation à distance offre un cadre d'apprentissage souple que l'on peut adapter et intégrer à son mode de vie.

Accessibilité économique: Par l'utilisation de dispositifs de communication à la fois efficaces et rentables on rend accessible des ressources éducatives de qualité et ce, à des coûts abordables pour l'étudiant; et dans certains cas abordables par des pays qui autrement ne pourraient s'acquitter de leurs devoirs envers la population (droit à l'éducation).

Accessibilité psycho-sociale: La formation à distance peut offrir un réponse aux besoins sociaux-éducatifs des communautés dans un contexte de démocratisation de l'éducation. La formation à distance peut rejoindre un très grand nombre de personnes et en ouvrir l'accès à des publics qui ne souscriraient pas à des programmes de formation traditionnelle. La dimension d'accessibilité psycho-sociale trouve parfois son prolongement dans les conditions d'admission aux programmes et dans la reconnaissance des acquis. De ce fait, la formation à distance concrétise certains principes de l'éducation permanente. Elle fournit, hors des milieux traditionnels, une nouvelle forme d'apprentissage qui favorise la prise en mains par les étudiants de leur propre démarche et facilite l'accès au savoir. Elle transcende le mythe culturel qui veut que l'apprentissage ne soit possible qu'à l'école en présence d'un enseignant.

Le dialogue

Bien que l'apprentissage soit fondamentalement une activité volontaire et personnelle qui ne peut être réalisée que par un processus interne (Holmberg, 1983, p.116), on reconnaît que ce processus requiert aussi qu'un pont soit établi entre l'apprenant et le système éducatif d'où provient la formation. Cette communication bidirectionnelle entre l'apprenant et le système de la formation, réalisée à l'aide d'un support technologique, place l'apprenant dans une situation de dialogue visant à réduire la distance, considérée comme un obstacle à l'apprentissage. Moore (1977) a déjà démontré que le degré de distance varie selon le degré de dialogue. C'est-à dire que plus le degré de dialogue est élevé moins la distance entre l'étudiant et le programme de formation est grande, alors que moins le degré de dialogue est élevé, plus la distance est grande entre l'étudiant et le programme de formation. C'est pourquoi dans les établissements de

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formation à distance soucieux de réduire ou d'éliminer les contraintes dues à la distance, on retrouvera des modèles pédagogiques axés sur le dialogue où les médias de communication bidirectionnelle sont privilégiés.

L'autonomie de l'apprenant

Souvent l'on a tendance à confondre autonomie et individualisation. Individualiser la formation c'est l'adapter aux caractéristiques de chaque individu (Leclerc, 1883, 1986). C'est créer un environnement éducatif qui tienne compte des caractéristiques individuelles (Sauvé et al. 1987). L'autonomisation c'est le processus par lequel la personne devient de plus en plus apte à se prendre en main, à se diriger par elle-même dans sa vie et sa manière d'apprendre. C'est ce que Baath appelle le contrôle.

Lorsqu'on parle d'individualisation on met l'accent sur les moyens qui vont permettre d'adapter la formation à l'individu. Lorsqu'on parle d'autonomisation, on insiste sur les finalités de la formation, c'est-à-dire sur la prise en charge par la personne de sa propre formation.

Favoriser l'automonie c'est redonner à l'étudiant une certaine emprise sur les lieux, la durée, le contenu, les objectifs et le cheminement de sa formation. A quoi reconnait-on un programme qui favorise l'autonomie? C'est un programme qui:

1. favorise la connaissance et la maîtrise progressive du processus même de l'apprentissage
2. apprend à l'étudiant à développer ses capacités d'apprendre (attention, concentration, logique, analyse)
3. lui apprend aussi à maîtriser les instruments indispensables pour acquérir de nouvelles connaissances par lui-même
4. rapproche la formation de la vie

Par l'accessibilité d'abord, par la mise en place d'un processus pédagogique fondé sur le dialogue et par la reconnaissance de l'autonomie de l'adulte, la formation à distance a posé les jalons de son identité propre. De tout temps, la formation à distance s'est consacrée à rendre accessible et à la portée de tous des enseignements qui autrement ne l'auraient pas été. Elle a misé sur la capacité de l'étudiant à prendre en charge son apprentissage de manière autonome tout en s'assurant qu'il reçoive le soutien nécessaire par la mise en place de dispositifs d'échange bidirectionnels facilement accessibles et de dispositifs permettant le dialogue avec l'établissement ou les personnes d'où provient de l'enseignement.

Les Valeurs de la Formation à Distance : Pour une Analyse des Choix Technologiques

Pour établir l'équation entre les choix technologiques et les valeurs qui tendent à distinguer la formation à distance il faudrait procéder à une étude plus approfondie que celle qu'il nous est permis de faire ici. Nous avons cependant voulu franchir un premier pas qui nous menerait à une meilleure compréhension du lien entre les choix technologiques et les valeurs de la formation à distance en définissant ces dernières en termes opératoires. Nous avons fait cet exercice sachant que les choix technologiques doivent être mis en rapport avec l'utilisation qui en est faite. En d'autres mots, l'analyse ne doit pas se résumer à l'étude des caractéristiques technologiques pour elles-mêmes; elle doit plutôt décomposer

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l'interaction dynamique entre les technologies et les composantes pedagogiques de la formation (démarche d'apprentissage proposée par les concepteurs, rôle de l'étudiant, rôle du tuteur). Les définitions que nous proposons ne seront donc utiles que si elles sont mises en relation avec le mode d'utilisation des technologies et les composantes pédagogiques.

Définitions opératoires

Accessibilité: une technologie qui facilite l'accessibilité à la formation à distance

- est disponible à domicile,
- implique des coûts peu élevés pour l'étudiant
- est d'utilisation conviviale
- est d'utilisation souple lorsqu'elle donne à l'étudiant la possibilité de gérer le temps de consultation ou l'horaire de diffusion

Dialogue: une technologie qui favorise le dialogue est celle qui offre

- des communications en temps réel et bidirectionnelles,
- de courts délais de réponse lorsque la communication est différée et
- la possibilité de communiquer fréquemment et selon les besoins.

Autonomie: une technologie favorise l'autonomie si elle permet à l'étudiant de contrôler

- son cheminement,
- les éléments de contenu ou les sujets d'enseignement et d'apprentissage,
- les objectifs de l'apprentissage et
- le temps requis pour sa formation.

La liste des paramètres que nous avons dressée ne traduit pas toutes les dimensions de l'accessibilité, du dialogue et de l'autonomie. Par exemple, si les paramètres que nous avons établis nous permettent d'affirmer que l'imprimé est accessible parce que c'est une technologie très répandue, peu coûteuse et souple d'utilisation, le même jugement ne s'appliquerait peut-être pas si on faisait une analyse de l'accessiblité de l'imprimé du point de vue de son contenu. Une documentation imprimée pourrait être jugée d'accès difficile à cause d'un contenu hermétique, abordable uniquement par des spécialistes, ou à cause de la faiblesse des habiletés en lecture que l'on observe de plus en plus de nos jours.

De la même manière, le téléphone jugé à priori comme une technologie privilégiée pour supporter le dialogue pourrait ne pas remplir cette fonction s'il était utilisé uniquement comme véhicule de transmission d'enseignements purement magistraux.

En Guise de Conclusion

Notre réflexion nous a amenées à stipuler que les choix technologiques sont de puissants révélateurs de la formation. Vérifier cette hypothèse n'est pas une entreprise aisée. Nous n'avons fait qu'amorcer une recherche qui devrait nous amener à répondre aux interrogations suivantes:

- L'accessibilité est-elle réellement une valeur primordiale pour les établissements de formation à distance?
- Y a-t-il des véhicules technologiques qui garantissent plus que d'autres le

dialogue et l'autonomie?
- Quel est l'importance relative des valeurs privilégiées par les établissements de formation à distance?

Les réponses apportées à ces questions et à d'autres permettraient de mettre en lumière les raisons d'être de la formation à distance et de qualifier les pratiques qui en découlent. Ainsi nous arriverions sans doute mieux à cerner le champ spécifique de la formation à distance et du sens qu'on veut lui donner.

Notes

1. La notion d'équipe pédagogique réfère au regroupement multidisciplinaire de différents spécialistes (expert de contenu, spécialiste des médias, technologue de l'éducation, didacticien, et autres)
2. C'est le "triangle d'or" éducationnel défini par Bertrand (1979).
3. Les choix technologiques englobent la sélection des médias (message imprimé, sonore, visuel, numérique) et le choix de la technologie de transmission (par exemple: le satellite, la cablodistribution, les ondes hertziennes, les supports numériques, etc.).

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Third Generation Course Design in Distance Education

David M. Kaufman

Introduction

Several theorists have proposed definitions of "distance education" (Holmberg, 1981; Keegan, 1980), but a single definition has not been agreed upon. There has even been a shift recently from use of the term "distance education" to "open learning" (Lewis, 1986). In fact, a unified definition of this term is almost elusive as a single definition of the term "education". One reason for this is that distance education is changing; it has evolved through two generations and is beginning a third generation. The main constant in these three generations of distance education is the separation of the teacher and student in space and/or time. Other elements in the definition proposed by Keegan (1980) such as the use of technical media, and provision of two-way communication describe a particular type (or generation) of distance education course design. This paper defines and justifies three characteristics that differentiate the three generations of course design in distance education. These characteristics are: (1) control by the learner; (2) dialogue; and (3) development of thinking skills. Third-generation course design is the most desirable approach and can be achieved only through the use of computer-mediated distance education.

Three Characteristics of Distance Education Course Design

Control by the Learner

This characteristic has been proposed recently as an expansion of the narrower concept of "independence" (Garrison and Baynton, 1987). Control is described as the opportunity and ability to influence, direct, and determine decisions related to the educational process. It is composed of three major dimensions: independence, power, and support. Control of the learning process is determined by the dynamic balance of these three components. This balance, in turn, is a function of the two-way communication process between teacher and student. The two-way communication process is described later under the heading "dialogue"; it represents the second characteristic of third generation course design.

Independence

Independence is synonymous with "autonomy" in the literature. It refers to the freedom of the student to make choices without external influence or restriction. In distance education, the learner would have freedom to select his/her learning objectives, activities, and methods of evaluation. This aspect has been discussed and advocated extensively in the literature. (Boud, 1981; Brookfield, 1983; Garrison and Baynton, 1987; Holmberg, 1985, 1986; Moore, 1972, 1973, 1986; Wedemeyer, 1981).

The terms "independence" and "autonomy" have generated some controversy, as there is an ideological dimension inherent in them. The value stance of those promoting independence in distance education may be summarized as follows:

> In distance education we are faced by the same value judgements about freedom and control as were our predecessors in more simple forms of education, but because of the impact of modern communication media and large scale delivery systems, the consequences of our choice or indeed our failure to choose, are more wide reaching. It is important that those of us who believe in the importance of individual freedom to be on our guard. It is important that we not only design and teach good programs, but that we think, write and argue for learner autonomy, to ensure that distance education works in the interests of learners, not of teachers alone, or institutions, nor is it used as a means of state control and social direction. (Moore, 1983b, p. 30)

The opposite stance is evident in the arguments for standardization of distance-education materials; cost-effectiveness; training to meet the requirements of specific accreditation bodies; and pacing of learners. This is not to say that these arguments are incorrect, but rather that they represent a first- or second-generation approach. Independence is a much broader concept that subsumes our current limited approaches to course design in distance education.

The need to develop independence in learners is a cornerstone in the definition of "andragogy" (Cross, 1981; Faure *et al.*, 1972; Knowles, 1970). The mainstream of thought in the area of adult education theory closely parallels the humanistic paradigm of education advocated by many recent writers and partly outlined above (Botkin *et. al.*, 1979; Combs, 1981; Ferguson, 1980). Cross (1981) argues eloquently against the old paradigm of education, in which teachers define the subject-matter, assign readings, and test for subject-matter mastery. In her view, such an antiquated model is increasingly incompatible with the demands of the learning society. Few adults on the job, or in their role as citizens and family members, are ever told what they need to know or where the answers will be found. Much more commonly, adults are required to define the problem, locate appropriate learning materials, and demonstrate not just subject-matter comprehension but the ability to apply the knowledge on the job, in the home, or for personal development. Cross concludes that these needs call for thoughtful, autonomous learners rather than dependent learners, and for people who know how to select and use the multiple resources in the learning society. Along similar lines, Boshier (1986) argues that the participatory learning advocated in the Club of Rome report (Botkin *et. al.*, 1979) requires widespread involvement of learners in the design and management of their own educational programs.

In distance education, Holmberg (1985) and Brookfield (1985) have stated the desirability of developing student independence in (adult) distance education. This goal goes back to work of Wedemeyer (1971, 1981), the "Dean" of

independent learning, who argued that developing in all learners the capacity to carry on self-directed learning is the "ultimate maturity required of the educated person."

It is not immediately obvious how best to put these ideals into practice. Independent learning is not an absolute standard to be met, but a goal to be pursued; what is important is the direction—towards student responsibility for learning (Boud, 1981). Independence in learning does not necessarily mean that students work on their own in isolation from others. Teachers change their role and become facilitators of learning rather than transmitters of information (Rogers, 1969). In fact, Boud (1981) has expressed the paradox that students must be led to freedom, and that they need to be taught the autonomous style.

Power

Power is the ability or capacity to take part in and assume responsibility for the learning process (Garrison and Baynton, 1987). Brookfield (1985) distinguishes the *internal* and *external* attributes of self-directed learning. The external dimension refers to the acquisition of techniques or skills required to learn independently. The internal dimension encompasses the internal processes that occur during participation in a learning experience. These involve reflection, critical thinking, and creating personal meaning from the experience. The determination of what to think and do is made possible by the use of certain mental activities such as choosing, deciding, deliberating, reflecting, planning, and judging. An autonomous person should encompass both the internal and external attributes of self-directed learning.

Mature learner independence also requires emotional independence—freedom from continual and pressing needs for reassurance and approval. On the part of teachers, it is essential that they assume an attitude toward students of acceptance and understanding of their views, desires, and frame of reference, and that a relationship is developed between teacher and students based on this acceptance (Rogers, 1969). This may be threatening to some teachers, as the ultimate criterion of success in promoting independent learning is as follows: "Autonomous learning can be said to have occurred in an educational situation which it becomes hard for educators to find participants who need a helping hand in finding something interesting or productive to do" (Harrison, 1978, 153).

Support

Support refers to the resources that the learner can gain access to in order to conduct the learning process (Garrison and Baynton, 1987). It refers mainly to availability and accessibility of resources such as: courses, learning materials, teachers/facilitators, community experts, library resources, audio/video cassettes, and computer terminals.

As mentioned above, this dimension is paradoxical, since support does not erode student independence, but actually increases it. Adult learners bring a great deal of prior learning and experience to the learning situation, and they already have some notion of the support they require. Although independent learning involves a shift in control towards the learner, it does not remove the teacher (or institution) from a position of authority. This is not a simple move from an authoritarian position to laissez-faire (Boud, 1981). Support must be

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provided for the external and internal attributes of independent learning described above. However, it is argued later in this paper that the demands for support placed on both the student and institution to properly implement this aspect of "control by the student" requires a computer-mediated support system.

Dialogue

"Dialogue" refers to the extent to which interaction between learner and teacher is possible (Moore, 1983). It represents communication during learning and may be regarded as comprising three stages: (1) negotiation—at the initial or planning phase to guide course development and and structure; (2) instruction—during the instructional phase to answer specific questions and support instruction; (3) evaluation—during the evaluation process, which should involve the student in self-assessment. A key point about dialogue is made by Garrison and Baynton (1987): the degree of control exhibited by a learner is dependent upon the form and quality of the communication process between teacher and learner. This notion is extended here to include the extent of two-way communication among the various learners in a distance-education course.

This concept of "two-way communication" is an important element in many theories of interaction in distance education. Holmberg (1981, 1986) uses this idea in his theory of "guided didactic conversation". He gives seven assumptions for his theory, which support the need for communication:

1. that feelings of personal relation between the teaching and learning parties promote study pleasure and motivation;
2. that such feelings can be fostered by well-developed self -instructional material and suitable two-way communication at a distance;
3. that intellectual pleasure and study motivation are favourable to the attainment of study goals and the use of proper study processes and methods;
4. that the atmosphere, language, and conventions of friendly conversation favour feelings of personal relation according to postulate 1;
5. that messages given and received in conversational forms are comparatively easily understood and remembered;
6. that the conversation concept can be successfully translated for use by the media available to distance education;
7. that planning and guiding the work, whether provided by the teaching organization or the student, are necessary for organized study, which is characterized by explicit or implicit goal conceptions (Holmberg, 1985).

Holmberg claims that No. 5 has been, to some extent, empirically validated; 2 and 6 are well attested in the literature and 1, 3, 4, and 7 are generally accepted beliefs.

Holmberg tries to incorporate this theory into a particular style of writing printed course materials. However, these assumptions suggest the use of a greatly expanded field of communication, as will be advocated later in this paper.

Baath (1980) has also argued for increased two-way communication between learner and teacher, and has done research which supports this (1976). He also analyzed some contemporary teaching models and concludes that models with less control of learning toward fixed goals encourage greater dialogue (1980).

Sewart (1978, 1981), another distance-education theorist who emphasizes dialogue, argues that the course package alone cannot perform all teaching functions, and that the institution should advise and support learners as well as provide a teaching package. He concludes that learning at a distance demands an interactive mode, and that this requires the introduction of the human element in the system. This provision should be available whenever the learner requires it.

Daniel and Marquis (1979) also advocate interactive activities in distance education. They argue for a balance between interaction and independence that is consistent with the view of developing independence in learners, which was described earlier. They claim that socialization and feedback are the main functions of interaction, and that increasing the proportion of interactive activities improves student learning. However, this is achieved at increased cost. Fortunately, computer-mediated communication systems have the potential to solve the problem of cost and provide the benefits of dialogue.

It is clear that for the three aspects of "control by the student" to be realized, an extremely flexible communication system must be provided to permit dialogue among learners and teachers. For example, if information and guidance is to be provided to learners during the transition from dependent to independent learning, a high degree of dialogue must be present.

Development of Thinking Skills

The third characteristic of course design in distance education is the purposive development of thinking skills in learners. This is essential to the development of independence described earlier and to the empowerment of the learner. It is also an important aspect of the support that is to be provided by the institution to promote independence in learners.

Thinking skills are necessary tools in a society characterized by rapid change, many alternatives of action, and numerous individual and collective choices and decisions. Seif (1981) has written that: "Thinking enables students to continually confront issues and problems with skills that will aid them in developing new ideas, making sound choices, making better decisions and understanding the world around them."

Among the thinking skills mentioned in the literature are: scientific thinking, creative thinking, decision-making, complex system thinking, ethical value thinking, probabilistic thinking, and logical thinking (Glaser, 1985; Seif, 1981). These skills are neither exclusive nor exhaustive. There is a great deal of overlap between many of these skills, and most have not been clearly defined.

Instructional Psychology has recently emphasized "cognitive process instruction"—which emphasizes understanding, learning and measuring *skills* as opposed to rote memorization of factual knowledge. Three basic questions face the cognitive process instructor (Beyth-Marom *et. al.*, 1987):

1. What thought processes are actually used by students (the initial state of the learner)?
2. What thought processes ought to be used by students (the nature of the competence)?

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3. What teaching strategies are most likely to help students move from their actual habits to better habits of thought (the transition process)?

Theoretical developments in this area have channelled research efforts in education and psychology toward the major question, "How do we think?" Answers to this question (and others) have already been applied in developing new curricula devoted to thinking skills. Nickerson *et. al.* (1985) classified existing curricula that are devoted to the enhancement of teaching skills into five broad categories:

1. Those that focus on the teaching of certain basic cognitive processes or skills that are assumed to be essential to, or components of, intellectual competence;
2. Those that emphasize certain explicit methods that are presumably applicable to a variety of cognitive tasks (e.g., analytical reasoning);
3. Those that try to promote formal operational thinking within the context of specific conventional subject matter courses;
4. Those that emphasize symbol manipulation skills (e.g., programming with Logo on the computer);
5. Those that focus on thinking about thinking (e.g., philosophy for children).

Other curricula not mentioned by Nickerson include:

6. Those that focus on decision-making;
7. Those that focus on problem-solving;
8. Those that focus on critical thinking.

One of the greatest controversies regarding the teaching of thinking is the question of whether these skills are general or specific to particular domains of knowledge (Glaser, 1985). Some educators working in the area of thinking recommended separate courses of instruction in thinking and learning (e.g., De Bono, 1976 in his CORT Thinking Program; Lipman, 1985, in his Philosophy for Children Program; and Feuerstein, 1985, in his Instrumental Enrichment Program).

Many other educators who have studied the question suggest that it is necessary to teach thinking in the context of some content (A.S.C.D., 1986). Bereiter (1984) and Joyce (1985) state that thinking skills instruction should and can be an important component of every school activity.

In all of the recommended procedures for teaching thinking, the goal is for students to transfer what they learn in the school setting to everyday life situations. The British Columbia Curriculum Development Branch suggests that the explicit teaching of thinking should be an integral part of each curriculum area. In this way thinking is essential for the study of all school subjects and its development considered a means, as well as an end (1988).

The Branch supports Bereiter's (1984) statement that "success in teaching thinking skills results when content objectives are contingent on activities that also promote thinking and when thinking skills permeate the entire curriculum."

Joyce (1985) argues that many types of intellectual skills, as well as intellectual growth, can be enhanced by the use of various instructional models. Even more impressive results can be obtained by using models in combination. For example, there are models designed to teach students:

1. to attack problems inductively (Inductive Thinking Model of Taba);
2. to attain concepts and analyze their own thinking strategies (Concept Attainment Model of Bruner);
3. to think divergently (Synectics Model of Gordon; Group Investigation Model of Thelan);
4. to work in groups to generate and test hypotheses (Group Investigation Model of Thelan and Scientific Inquiry Model of Schwab);
5. to reason causally, i.e., cause and effect (Inquiry Training Model of Suchmann, Synectics, Group Investigation, Simulation Model);
6. to analyze personal behaviour, set personal goals, and conduct independent inquiry (Nondirective Teaching Model of Rogers);
7. to analyze social situations and develop flexible social skills (Role Playing Model of Schaftels, Simulation, Group Investigation, Nondirective Teaching);
8. to general intellectual complexity (all Models but especially Cognitive Growth Model of Piaget, Concept Attainment, Inductive Thinking);
9. to decision-making (Decision-Making Model of Beyth-Marom *et al.*).

Many of the models listed above can be used alone, or in combination, to teach thinking skills while instructing students in different content areas. They are all (with the exception of 9) described in detail in the classic work by Joyce and Weil (1980).

Baath (1980) outlines some of the teaching models listed above and examines their applicability to correspondence education. His conclusions are useful but limited, since computer-mediated communications make possible the application of these and other models in a manner not possible by using only course materials, postal service, and telephone. This applies particularly to the models which develop thinking skills.

This area is very new and still requires much research and clarification. However, it is clear that thinking skills must be one component of third generation course design in order to move towards control by the learner. True independence and power for the learner require well-developed thinking skills, and this must be one aspect of the support provided by the institution.

Three Generations of Course Design

The three characteristics defined above (control, dialogue, and thinking skills) will now be used to describe and compare three generations of course design in distance education. Table 1 compares the three generations.

First Generation

This approach to course design is referred to as "correspondence education," and was the predominant model for many years. It is still widely used. In this model, no choice is provided to learners, who follow a fixed course or program. All power is centralized within the institution. Little support is provided other than written feedback on assignments, and evaluation is by final exam. There is little two-way communication (dialogue) other than written feedback on assignments through the postal service. Limited use of telephone is possible. Little or no emphasis is placed on thinking skills, as the orientation is on covering a set amount of material.

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Table 1
Comparision of Three Generations of Course Design in Distance Education
***Note that the term 'open learning' has been in use recently to denote a 'learner-centered' type of system which provdes a high dgree of choice to the learner. The term 'open distance education' is used here to label an approach refered to as third generation course design.**

	Control	Dialogue	Thinking Skills
1st Generation 'Correspondence Education'	• No choice provided to learners in program • Learner has no power • Little support provided other than written feedback on assignments • Evaluation is mainly by final exam	• Low dialogue • Mainly postal service. Some telphone, some phone-in on the air to radio forum	• Little or no emphasis • Focus on content converage
2nd Generation 'Distance Education'	• Some learner choice of courses within a program • Some choice of topics or projects undertaken within a course • Learner has no power • Some pre-enrollment counselling and study skills training is available by phone as well as in writing • some audio-teleconferences and face-to-face sessions are used • Evaluation is by assignment, projects and final exam	• Modern dialogue available at specified times • Mainly postal service • use of telephone audio teleconferencing •interactive television	• Some emphasis particularly in some British Open University courses • Focus still on content coverage
3rd Generation 'Open Distance Education'*	• Learner choice of why, what, how where and when to study • Some learner choice of how their learning will be evaluated • Power is mainly in the hands of the learner • Institution and other learners provide on-going support to assist the learner in becoming independent	• High dialogue available • All of the above methods, plus computer-mediated communication	• Major emphasis throughout curriculum on problem solving, decision-making critical thinking

*Note that the term 'open learning' has been in use recently to denote a 'learner-centered' type of system which provdes a high dgree of choice to the learner. The term 'open distance education' is used here to label an approach refered to as third generation course design.

Second Generation

This approach to course design is a significant evolution from the previous generation, and is the predominant model used in current programs for teaching at a distance. It is referred to as "distance education" (Kaufman, 1984a). Some choice of courses is available within a program; also, some choice of topics or projects undertaken within a course is possible (Ljosa and Sandvold, 1983). The learner still has no power in the system, and must satisfy the institutional requirements, which are pre-specified. The degree of support is significant, with pre-enrollment counselling and study-skills training available. A tutor is available by phone as well as in writing, and some audio-teleconferencing and face-to-face sessions may be used. Moderate two-way communication (dialogue) is available at specified times through the use of telephone, audio-teleconferencing, and interactive television. There is some emphasis on thinking skills, particularly in some British Open University courses, although the focus is still on content coverage. An example of an evaluation of a second-generation model is given by Kaufman and Sweet (1983).

Third Generation

This approach to course design is a quantum leap from the previous one. It will be referred to here as "open distance education". The learner is given a choice of why, what, how, where and when to study (Lewis, 1986). There is some choice by the learner of how his/her learning will be evaluated. Power is mainly in the hands of the learner, and the tutor plays more of a facilitator role. The institution provides ongoing support to assist the learner in becoming independent, in ways described earlier in this paper. Two-way interaction is available at any time through the use of computer-mediated communication. Finally, major emphasis is given throughout the curriculum on development of the thinking skills of problem-solving, decision-making, and critical thinking.

Implementing Third Generation Course Design

Lewis (1986) defines the term "open learning" as the removal of four types of barriers inherent in conventional educational systems: physical, educational, individual, and financial. He presents an "open-closed learning continuum" along nine dimensions, and argues that openness is a relative concept since learners usually have choice in some, but not all, aspects of the learning process. He describes the choice that learners may be given in why, what, how, where, and when they learn; how their learning will be measured, who can help them; and what they do next. He gives several examples to show how openness can be incorporated and concludes that even many traditional classes have some open characteristics.

A program could conceivably be "open" to a large degree, but not use distance teaching methods. For this reason, the third-generation model of distance education discussed in this paper is called "open distance education". Ljosa and Sandvold (1983) have analyzed the various ways in which learners can be given some freedom of choice within a distance-education course. Learners can select materials at different levels or according to personal interest; they can

select material from supplementary reading; and they can find material and working project in their local community. These efforts may indicate the beginning of a shift from second- to third-generation course design. However, this is still a far cry from the third-generation model described earlier. The difficulty with approaches such as Ljosa and Sandvold's is that they are attempts to stretch the existing boundaries of the second-generation model. What is actually needed is a completely new model. Such a model is now feasible, and the technology is being implemented at various sites.

This technology has been called computer-mediated communication (Bates, 1986), computer teleconferencing (Davie and Palmer, 1984), computerized conferencing (Kaufman, 1986), and computer conferencing (Harasim, 1986, Hiltz and Turoff, 1978; Kaye, 1986). Kaufman (1984b, 1986) described this method as including one-to-one and one-to-many communications among many people using computers and communications among many people using computers and communication lines (a computer "network"). An additional powerful feature is the ability to search and retrieve information from large-scale computerized databases, opening up the option of remote libraries such as that already available with the abstracts on the ERIC system. Computer conferencing is used here to denote the use of computers to link people across time and space. Cross (1983) observes that computer conferencing enables two or more individuals at two or more locations to communicate. Without having to interrupt their work schedules and to pay for costly travel, these individuals can exchange information and learning aids.

Harasim and Johnson (1985) outlined several general features of computer conferencing systems. These include text editing, sophisticated searching capabilities for conference items access to external data bases, and electronic messaging. In addition, computer conferencing systems usually maintain a permanent record of proceedings during the course of a conferencing, thus serving as a type of electronic filing cabinet. The main features have been listed previously (Bates, 1986; Kaufman, 1984b, 1986). These include:

1. Directory—for identifying participants on the system and finding addresses where messages are to be sent;
2. Electronic mail—for one-to-one and one-to-many communications;
3. Conferences—for group discussions, with a permanent transcript of the proceedings;
4. Private work spaces (Notepads) for collecting ideas and personal files;
5. Word processing—for composition and modification of messages and documents;
6. Bulletin board—for access to announcements of general or particular interest;
7. Newsletter or journal—for access to articles or papers of general and particular interest;
8. Data bases—for access to data or information on a variety of topics;
9. Voting and polling—for determining the degree of support for a particular option(s); also permits consensus decision-making process;
10. Organizing and Structuring—for organizing or structuring a conference in a variety of different patterns, e.g., open to some, closed to others.

Certain capabilities of computerized conferencing systems make them well suited to the adult learner and to implementing third-generation course-design approaches. These will be listed according to the three characteristics of third-generation course design described earlier.

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Control by the Learner

1. Permit access to experts and respected peers for advice, guidance, and support;
2. Permit a large number of resource materials to be stored for choice by learners;
3. Permit tailoring of a course by learners to meet their needs;
4. Allow for the exercise of "power" by learners over their learning either alone or in groups;
5. Permit the ongoing support of the learner to enable him/her to move to independence.

Dialogue

1. Permit continual dialogue between teacher and learner and among learners;
2. Provide a permanent record of dialogue for letter reference;
3. Provide a new communication mode that values intellectual skills, rather than social skills, i.e., where the best ideas are listened to and are given an opportunity to develop, rather than merely the most assertive speakers (Boyd, 1987), as is often the case.

Development of Thinking Skills

1. Makes possible the teaching of thinking skills through the use of the numerous teaching models outlined earlier (not really feasible with first and second generations models);
2. Offers the potential to reinvent education strategies and activities, opening new possibilities for group-centred learning activities (Harasim, 1986). For example, Beckwith (1987) describes an experiment in group problem-solving using computer conferencing.

Several educators have written about the advantages and disadvantages of such a system (Bates, 1986; Harasim, 1986). These have been well described and will not be repeated here. However, there are currently some significant deterrents that need to be overcome. Davie and Palmer (1984) list these as:

1. Poor (or non-existent) typing skills;
2. Resistance of the educational establishment to such an innovation;
3. Lack of convenient access to a terminal or microcomputer;
4. Lack of a need or desire to communicate with other people on the system;
5. Lack of adequate training on the system;
6. Lack of adequate leadership;
7. Lack of a "critical mass" within a conference or a group. Minimum is between 8-12 in 3 geographical locations, (Hiltz and Turoff, 1978).

Bates (1986) adds to this list as follows:

8. Danger that such a system may transfer costs to students (hardware and line charges);
9. Major organizational and financial changes are required;

10. Conferencing software currently available is not yet "user -friendly" enough;
11. May not be suitable for all courses, as it may discourage learners who do not wish to use a computer.

I would add one more to this list, as follows:

12. Ergonomic considerations may not be adequately handled, causing eye fatigue, and muscle soreness and possibly more serious problems with the user's health.

The technical deterrents will be overcome in time, as relative costs decrease and hardware/software power increases. It would be expected that course development and delivery in this mode will actually increase, as the substantial costs in developing (and revising) course packages are eliminated, and delivery is done electronically. The questions of typing skills and training are fairly easily solved, as they are being solved in regular computer training for end users; in fact computer literacy is now regarded as a basic skill, and the requirement of computer use will be commonplace in the future for any course. Also, many organizations are now using proper ergonomic practices, and manufacturers are designing equipment with this in mind. In time, home users will have also workstations that are ergonomically sound. The problem of resistance and major organizational and financial changes will also be solved in time, as it has been with second-generation approaches. This may at first require new organizations (or new departments in existing agencies) to handle third-generation distance education, as new institutions and departments have been created to handle second-generation approaches. Assuming that the organization embraces the values inherent in the characteristics of control, dialogue and thinking skills, course designers and teachers will need to experiment and learn how to apply to numerous teaching models, using computer communications. New teaching models will emerge through experience; a good example is the group problem-solving approach described by Beckwith (1987). There is little doubt that the deterrents listed above will be overcome over time, and the characteristics of third-generation distance-education course design will be incorporated, using a greatly expanded repertoire of teaching strategies.

A variety of examples of the use of this technology in distance education already exists, albeit for implementing a second-generation approach. Harasim (1987) describes its use in two graduate courses at the Ontario Institute for Studies in Education (OISE). She indicates that OISE is moving towards the development of an "electronic campus" by offering courses and access to faculty and to learning peers on-line. One can currently access the OISE librarians, but the library catalogues and administrative services are not yet available within this electronic environment. In British Columbia, Kaufman (1985a, b) proposed the use of this technology, but little serious activity, along the lines of this paper, has yet to appear. The New Jersey Institute of Technology has been active through the EIES project (Hughes, 1982; Kerr and Hiltz, 1982), and the Western Behavioural Sciences Institute has used computer conferencing as a tool for management training (Feenberg, 1986).

Kaye (1987) mentions several other projects at Guelph University, New School for Social Research, and New York Institute of Technology. He then describes the Open University pilot experiments in an undergraduate Cognitive Psychology course and in a continuing education course in Software Engineering. Bates (1986) describes plans to use computer conferencing as a major component

in an Open University undergraduate course, "Introduction to Information Technology". He concludes by describing the Open University's intention to use this medium in several advanced-level courses with low student numbers (maximum 100) spread throughout England.

Conclusions

This paper has described three generations of course design in distance education, according to the three characteristics: control by the learner, dialogue and development of thinking skills. Arguments were presented for the importance of these three aspects, and it was shown that third generation course design could be achieved only through the use of computer conferencing. Although several experiments are already underway, a number of deterrents will need to be overcome before this becomes a predominant mode of operation.

Research is needed to investigate how to use this medium to implement the many instructional strategies available to develop thinking skills in learners. Other innovative teaching strategies will also evolve through the uniqueness of this medium. Policy issues such as privacy and security, freedom of speech and censorship, legal issues such as liability of the institution (libel), ownership of information, and copyright will need to be addressed. Economic factors and ergonomic considerations will also require analysis and action.

The potential is enormous. Yet the challenge of implementation of third-generation course design is even greater; that challenge will take time to be fully met, and it will require integration of the knowledge and skills of experts in many fields.

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Contradictory Directions for Distance Education: Cultural Miscegenation, or Cultural Symbiosis?

Gary Boyd

Introduction

Distance education is developing rapidly in China, India, Burma, and the South Pacific, but also in the Americas and Europe, and to a lesser extent in Africa. The main reasons for this development are:

1. that the Third World has massively increasing populations with urgent educational needs;
2. that it is now technically and technologically possible to provide useful learning opportunities at a distance cheaply;
3. that there is no way to provide highly specialized learning opportunities to dispersed and non-mobile learners except through distance education; and
4. that distance education provides freedoms and highly specialized curricula for adult learners that are difficult or impossible to provide in face-to-face education, even in affluent countries.

The recent and continuing growth of distance education is an encouraging phenomenon, since it contributes to global survival. Our human habitat will not last much longer unless its various peoples learn to live symbiotically together. The planet is too small and too fragile to permit continued laissez-faire exploitation (Lovelock, 1979). Progress, not just "understanding," is terribly urgent in a world of nearly six billion people, where one billion are starving mainly because of ignorant or perversely myopic cultural competition (Macy, 1983).

Some sort of educational transformation should enable most of the world's people to act more intelligently and cooperatively as the conscious stewards of all Life—or to put it in Buckminster Fuller's terminology, to do our duty as the officers and crew of "spaceship earth." A great deal of time and effort has been devoted to education world-wide. Its effects on global viability, however, seem either too little and ill-directed, or too late, or even pernicious. For example, the best of intentions about sanitary education has led (e.g., in Java) to reductions of infant mortality, but then to self-defeating population explosions. The worst of intentions are nicely augmented by the education of engineers to work on nuclear attack submarines, etc.

Truly progressive education enhances the possibility that we shall preserve and shape this world as a place in which to survive indefinitely, together. Such education must be both *participatory*, and *anticipatory* as Botkin, Elmandura and Malitza (1979) clearly argued in the Club of Rome's monograph *No Limits to Learning*. People who identify with different cultural traditions must participate together in modelling what is happening, and what can be made to happen. The

Club of Rome projects themselves are examples of such trans-cultural participatory and anticipatory modelling.

The actual limits of learning are set on the one hand rather rigidly by available energy and genetics, and on the other hand (at least potentially) by the state of our knowledge and by the functioning of our principal cultural control mechanisms: bureaucracies, banks, churches, schools, and above all by what I have come to call "mass advertainment" — commercial television, videos, and radio.

Large scale formal distance education is a new cultural control mechanism that may push back many of the conventional limits to learning.

Conventional face-to-face education does not provide much leverage for dealing with global ignorance and myopia, because it is engaged mainly in autopoiesis, slowly reproducing its own roles and customs. New teachers trained innovatively go out to schools where they are re-socialized to play their subordinate roles in old conventional dramas. Complex timetables with short periods reduce time for learning tasks. Large classes minimize the effectiveness of teachers. The research consensus is that, generally speaking, effective face-to-face teaching and learning requires group sizes of less than fifteen people (Glass, Cahen, Smith and Filby, 1982). This, along with other school culture factors, means that there can not be much of a rapid multiplier effect through teacher training and conventional large classroom schools. Over three or four generations ordinary schools may possibly be effective, but the acceleration of destruction is too great for such slow means to be of much help.

Even in the most affluent countries, much "traditional" education appears to be little more than the obsessive reproduction of old, and now inadequate coping patterns (Bourdieu and Passeron, 1977). Moreover, because it is affectively emasculated, most conventional education cannot compete with the dramatically compelling life-models offered by commercial television, radio, and video entertainment, which has become the main educational influence on most young people (U.S. N.I.M.H., 1972).

When conventional education has been effective — as were Jesuit and fundamentalist religious schools, the Hitler-Youth, the young Komsomols, and the Mao-ist "cultural revolution" — its aggressive outcomes have been terrible. We have come to prefer ineffective education for fear of indoctrinating prejudices and hatreds. Sexual and cultural taboos also seriously limit the effectiveness of conventional education in realizing affective goals (Goodman, 1962).

In any event, the span of cooperation and coordination needed for a viable world (Beer, 1974) implies that a form of global distance education may be part of the solution. But which form?

The recently created Commonwealth of Learning may, for example, offer a useful model of an administrative infrastructure. Similarly, new developments in cybernetic systems modelling may offer more imaginative approaches for curriculum development.

Distance education, which seeks at least in principle to be responsible to (all) life on earth, must enable all the various actors to function in concert. Just how difficult this can be is indicated by Rumble (1983), who discusses some of the overwhelming problems of existing multi-national distance-education systems. In order to function intelligently in concert, actors must often engage in conscious dialogue about the probable outcomes of their actions. Unfortunately, most of the actors — from the United Nations down to the children in pre-school — are much

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of the time automatically playing out antagonistic "clockwork roles." More trans-national actors, institutional and individual, need to be brought together in mutually educative dialogue, if these automatisms are to be overcome and "cultural symbiosis" achieved.

The main inhibitors of such "life-world constituting" discourse (Habermas, 1984) are fear and fixation on concrete immediate tasks. Many people have vested interests in specific, localized projects designed to propagate their own interests. They find it difficult to rise above the business of "pushing" their local "shows" to see how their cumulative effect is self-defeating.

Computer-mediated conferencing is becoming a cheap enough to help people break out of their myopic shells. Its three main emancipative advantages are that it offers:

i. time and place flexibility that facilitates learning, despite otherwise overwhelming everyday contextual pressures;
ii. the possibility of safely bracketing the dramatically close personal affiliation (mentoring) that is most important in ensuring both tradition-rooted continuity and effective emancipative education;
iii. the possibility of enabling people anywhere to play-out dramatically various selves-in-system cybernetic simulations. Such participatory and anticipatory exercises can empower people to collaborate in life-world construction.

Perhaps through computer-mediated conferencing we can work globally to give a culturally symbiotic orientation to distance education. Educators have a new opportunity to influence developments through the new telematic media-supported forms of distance education (Boyd, 1985).

Contradictions between growth and progress

It has now become a truism that further global population and industrial growth will lead to poorer quality of life and reduced expectancies of human survival. In fact, as this century draws to a close, it is witnessing a global "tragedy of the commons," in which everyone does what seems most rational locally, and produces effects that add up to a worsening world.

Distance-education institutions and services are growing rapidly. To what extent can this be progress? To what extent does it feed the "techno-peoplague"?

Even democratically legitimated growth does not necessarily ensure progress, unless participants understand complex, coupled ecosystems well enough to make systemically rational choices, and unless they care to do so. There is a tendency to disconnect our growing awareness of world imperatives from our daily work decisions.

At meetings of distance educators, such as the March, 1988 Lakehead/Contact North conference and the May, 1988 CADE/Banff conference, one clearly notices two main groupings: those who emphasize cost-effective large-scale distance-education provision, versus those who emphasize the difficulty of meeting the special needs of otherwise neglected persons, northerners, Metis, farm women, and so on. Paradoxically, the latter moiety may be better oriented toward cultural symbiosis than the former, since they are concerned with preserving and catering to human variety (Smith, 1982). However, the special-needs moiety seems to be content to be in a loose coalition with the mass-growth moiety, probably because the latter tends to be treated well

by present-day governments. Governments seem to prefer to subsidize wealth-diverting businesses — defence, for example — by cutting real educational expenditures and offering diversionary distance-education shows. Nevertheless, such coalitions are not too harmful, provided the special-needs oriented moiety has a well articulated vision that it persistently defends and promotes. The empire-builder moiety needs the grass-roots relations that only the special-needs moiety can build. The special-needs moiety provides the requisite instructional variety to make packaged education effective.

Two areas where the contradictory nature of these moieties surfaces are the curriculum, and study centres. Cost-effective distance education concentrates on high-enrolment basic "foundation" courses for the general populace. Vital-needs oriented curriculum concentrates on specialised low-enrolment courses for isolated or immobile people. Cost-effective distance education minimizes the use of administratively expensive local study centres and personal tutor telecommunications, in order to save money even at the expense of effectiveness.

Cultural Symbiosis

The primacy of culture for people is comparable to the primacy of water for fish. Just as the fish see the water only when it is dirty, we see culture only when it causes trouble, and then only in glimpses. That did not matter when culture was difficult to change, but now that we have such tools as television advertising and radio drama, large and usually unintentional changes are muddying the waters of language and life.

What is important, valuable and even beautiful in one culture may, when dumped into another culture, prove disastrous. Only by appropriate closings as well as openings can cultures survive symbiotically (Klapp, 1978).

The technical definition of culture I find most compelling is that of Robert Boyd and Peter J. Richerson (1985): culture is information capable of affecting individuals' phenotypes, which they acquire from other conspecifics by teaching or imitation. The main things to note here are:

1. that affecting phenotypes affect "who we are";
2. that by "information" is meant something that has the leveraging property of energetically minor causes that have energetically major effects; and
3. that "information" becomes "culture" only insofar as it is transmitted.

This definition is close to those of Clifford Geertz (1973) despite the seeming over-emphasis on individuals.

If we wish to change the world for the better, it is not enough merely to expose paradox and fraud. Rather, some utopian vision, or collectively agreed prescription for change, must guide us. The metaphor of symbiosis is very attractive as an educational meta-goal in two main respects:

1. symbiosis of cultures should conserve most of the unique characteristics of each (except the totally antagonistic ones);
2. over time symbiosis should strengthen those characteristics of each culture which make symbiosis possible.

It is hard to find good examples. Possibly Switzerland is the best available.

In broad terms the alternatives to symbiosis are: monoculture or extinction, now that natural mutual isolation is no longer possible. Any protection to be applied now must be by mutual symbiotic agreement. If this were attempted by totalitarian means cultures protected in zoos would be so lacking in integrity as to be intolerable (e.g., Indian reservations, apartheid homelands). It is true that symbiosis implies a sort of meta-monoculture at the level where the norms for co-existence and mutual nourishment are calculated. But this surely is the least offensive option.

The communication and control of cultural forms — of who we are — is partly a process based on an evolved imperative and partly a matter of personal volition. Dawkins' (1983) work on the propagation of "meme-complexes" gives a new basis for looking at the evolved imperative. Taking this approach and complementing it with telematically distributed Prescriptive Cybernetic modelling methods (Boyd, 1982) can lead to new ways of modifying cultural propagation to enable real symbiosis.

This meta-strategy poses both ethical and aesthetic challenges that need some form of democratic resolution. Legitimate and responsible cultural "engineering" should be made possible by incorporating Jurgen Habermas' (1981) desiderata for non-dominative legitimating communication.

Ventures and Strategies

Three strategies seem promising: a rhetorical strategy, a conversational communicative strategy, and the open selves-in-systems prescriptive modelling strategy.

This paper is part of the rhetorical strategy: by intimation, argument, and portrayal, it is intended to encourage people to consider forming a commitment to work toward realising cultural symbiosis on the global scale by using computer-mediated communications and distance-education techniques.

An excellent example of the conversational communicative strategy is the work of Linda Harasim and colleagues at O.I.S.E. in offering a seminar course on womens' issues to teachers scattered over Northern Ontario using the PARTICIPATE computer mediated communications system (Harasim, 1987).

The open-selves-in-system modelling strategy is exemplified in cybernetic systems modelling courses at various universities (e.g., Umpleby, 1985). The purpose of these systems modelling courses is to help people cooperatively to make open-ended models of the nested systems they are in, as an aid to mutual development. My own experience in giving such a course for two decades is that many graduate students can and do learn how to make models of portions of their worlds that generate systemically valuable undertakings (Boyd, 1982).

Perhaps the most widely influential example of such a course is the Systems Foundation course of the British Open University. The curriculum designers did not call upon Lovelock and Stafford Beer to shape the course, but picked safer, more moderate persons. This course of action raises the unsettling possibility that distance education is likely to be less innovative than conventional university education since the curriculum is on public view (Harris, 1987).

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Conclusion

In this short paper, I have tried to make plausible three conjectures:

1. that modification of our cultures so that they propagate symbiotically rather than antagonistically is essential for global human viability;
2. that distance education using television and computer-mediated telecommunications can become much more potent than conventional education usually is (possibly even more potent in mis-education than are the commercial advertainment media?);
3. that a coalition of educators who care about cultural symbiosis can be formed and also probably can function most effectively through computer mediated conferencing.

Wide acceptance of a more systemic, emancipatory, and visionary conceptualization of distance education should help to resolve the apparent contradiction between institutional growth and growth progressively aimed at global human viability.

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A Philosophy of Distance Education: Perceptivism

Charles Brauner

Philosophy
Is the Kaleidoscope of proofs
Tumbled
By shifts in assumptions

Zadic[1]

Distance education currently is strung out between two opposing positions that have only superficial features in common. Understandably, correspondence courses are carried out at a distance and meet the basic conditions of separation from instructors and fellow students noted by such commentators as Moore,[2] Holmberg,[3] Wedemeyer,[4] and Keegan.[5] Indeed, why learn by correspondence unless you are isolated? And even though telephone calls and conferencing as well as voice and video tapes are being used ever more frequently, the basis medium remains unchanged.[6] From Newfoundland to British Columbia, correspondence courses are carried out by the slow exchange of information in taped, printed, typed, or written form.[7] And, because most of the course materials are locally produced for learners who will tackle them on their own, they are often simple and sometimes simplistic.[8]

At the opposite end stands all the expertise and technology for packaging programmed lessons for use on home computers and the broadcasting of televised instruction to vast audiences. Both the scope and the more public nature of the enterprise work towards the elimination of flagrant errors and the avoidance of excessive oversimplification. Yet, too often such lessons are no more than televised lectures filmed by a stationary camera in a studio.

Important things are happening to bring both ends of the spectrum closer together. On the one hand, correspondence teaching has recently been reviewed in the light of the many new learning theories and curriculum models currently available. On the other, the new technology, from teleconferencing to Telidon, has a built-in imperative that moves it away from the kind of centralized control associated with teaching by computer or by television broadcasting alone. Between them, the new theories and the imperative to honour local input open distance education up for the adoption of a new and unifying philosophy of education called Perceptivism.

Despite a venerable history, correspondence education has only recently come of age as an intellectual subject of study. Perhaps John Baath's well informed volume, *Correspondence Education in the Light of a Number of Contemporary Teaching Models*, has done more for its conceptual development than any other work. In that book, Professor Baath examines the teaching models and strategies of such distinguished educators as B.F. Skinner, D.P. Ausubel, Jerome Brunner, Carl Rogers, and R.M. Gagnè. The models and strategies of these authors and others are analyzed for their perspectives on teaching and learning and then the stragegies or models are applied to correspondence education.

In dealing with B.F. Skinner's outlook, Baath provides a simple model of teaching and learning. Baath's skeletal view of Skinner's theory stresses the following points:

1. Learning is viewed as identical with acquiring behaviour.[9]
2. The effective stimulus is the one that provokes the sought after behaviour.[10]
3. The learning is consolidated by positive re-enforcement.[11]
4. Re-enforcement should follow quickly upon the exhibition of the desired behaviour.[12]

In his application of Skinner's theory to correspondence education Baath draws several conclusions.

1. The need to exercise control over behaviour puts the main focus on preparing the appropriate materials.[13]
2. Correspondence courses would be designed as a form of programmed instruction.[14]
3. The feedback would be used to diagnose the student's prior knowledge in order to get an idea of what will produce the appropriate behaviour.[15]
4. Telephone tutoring would individualize instruction.[16]
5. Telephone tutoring could shorten the usual delay between a student's action and the re-enforcing response inflicted by sending things through the mail.[17]

In contrast to Skinner's reliance on behavioural-modification techniques, Carl Rogers' approach to "discovery learning" strives for as much self-directed learning as possible. In his account of Rogers' view of experimental learning, Baath sets out five characteristics designed to achieve intrinsic motivation.

1. The emotional and cognitive aspects of learning should combine to produce deep personal involvement.[18]
2. Even when directed from outside, the sense of discovery should come from within, this being self-initiated.[19]
3. The learning should make a difference in the learner's behaviour, attitudes, and, even perhaps, personality.[20]
4. The worth of the learning experience is only to be evaluated by the learner.[21]
5. The whole experience is to take its significance from the meaning it has for the learner.[22]

Applied to correspondence education, the Rogers model is more radical than Skinner's because of its built-in opposition to centralizing control in fixed lessons. Like John Dewey before him, Carl Rogers' reliance on experimentation and discovery puts the learner at the centre of the teaching situation. Confirmation of this view is provided by Baath when he notes:

> Among all the models dealt with in this study, Rogers' model leads to the weakest emphasis on the Teaching Material in correspondence education. Correspondingly, greater demands are placed on the two-way communication. The correspondence tutor's main task would then be to guide and give advice, not to control and assess. In trying to perform this task, he must pay a particularly great attention to the establishment of good emotional relations with the students.

This, of course, is precisely what face-to-face classroom instruction can accomplish, and it is what distance education finds most difficult to do. Yet, with the use of tapes, on-line computer contact, two-way voice interchange by telephone and radio, teleconferencing, and even two-way television contact, this kind of humanistic learning environment is becoming ever more available. As Baath has shown, the new technology will have no want of psychological theories

of teaching and learning to draw from as it goes into operation. The problem lies in choosing among competing psychological theories when all of them are built on speculation backed by very little reliable evidence. Indeed, such choices are not really rational decisions based on scientific evidence. They are essentially philosophic decisions based on certain congenial assumptions about human nature and the nature of human learning. Because these assumptions are rarely examined and seldom rationally defended, programs of education based on psychological theories or curriculum models of learning come and go in rapid order.

Practical programs built around a philosophy of education that states its assumptions and defends them on rational grounds provides a more public forum for open debate and concerted action once some general agreement has been reached. In search of that debate and working consensus, Perceptivism seeks to guide distance education by making its philosophic assumptions and lines of rational argument clear and available. Once the case for the philosophy has been made, it is surprising how strongly it supports several of the contending psychological theories and the practices derived from them. In particular, it gives sound philosophic backing to the hidden theme of John Baath's book. From Skinner's behaviour modification to Rogers' humanistic discovery method, each succeeding model of teaching lays greater stress on the human agent in distance education.[1] In Perceptivism, the tutor is the key to making things work, yet the goal is to retain the integrity of the material taught. In that respect, Perceptivism opens up the middle ground between Skinner and Rogers.

Perceptivism—The Philosophy

All philosophies are based on certain assumptions and Perceptivism is no exception. The challenge is to find a set of basic assumptions that are true, flawless, and not merely tautological. Though such a goal may be beyond reach, the closer the assumptions come to fulfilling that ideal the greater their chance of gaining rational acceptance. For Perceptivism, the fundamental assumption is that whatever exists possesses energy. The energy may be in the form of heat, light, vibrations, movement, X-rays, utterances, emotions, feelings, or actions. Whatever form it takes, that energy gives off impulses; those impulses contain the basic data by which the phenomenon can be known. Of course, making the case for this assumption has been the basis for many books and journal articles. Even then, the connection between such a philosophic position and distance education is a long and twisted route. Hence, to cut down on time and space while continuing to demonstrate the link it is necessary to resort to a technique that might best be called "Graphic Epistemology". That is, by depicting the assumption and the chain of development it spawns, the graph or diagram generated illustrates the claims involved. Since such a graph bypasses the detailed arguments needed to sustain the claims it does not serve as a proof. Rather it serves as a kind of road map that designates the main points of interest along the way. As a complete philosophy of education, Perceptivism employs several such maps to make the connection between theory and practice. On the philosophical side of Perceptivism the graphic approach begins with the basic assumption about the energy generated by phenomena and goes on to show how the data found in the energy leads to human perception. Presented in sequential

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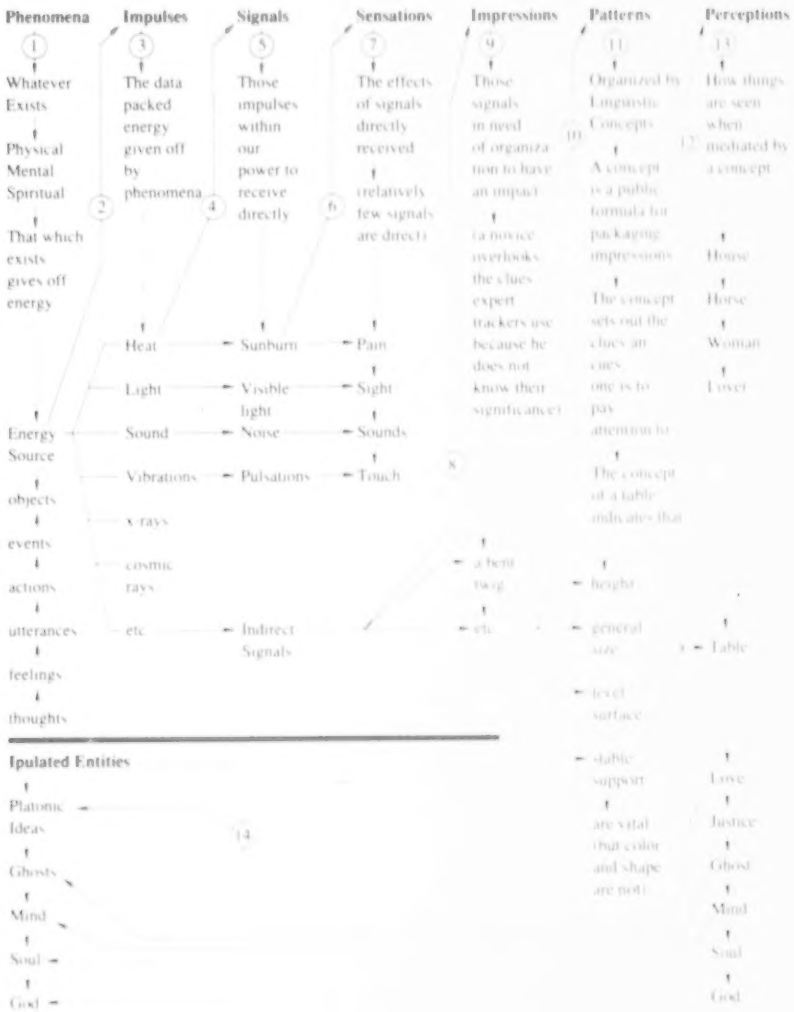
form with only the thinnest form of justification, the graph sets out the fourteen stages of perception in the following way:

The Fourteen Stages of Perception



According to the diagram, the signals and sensations that come directly from experience are the only immediate perceptions. Even the lion cub responding to the mother's snarl has learned to associate that sound with danger through many trials. All the impressions at any higher level of perception are dependent on language. Hence, language plays a central role in shaping the great bulk of human perception.

At first glance, this heavy reliance on language suggests the kind of emphasis an educator such as Neil Postman places on linguistic fluency and basic literacy.[25] Indeed, his concern is well placed. Without a suitable vocabulary and a good command of verbal skills a student is in a poor position to reason well and detect the flaws in specious arguments. These are abilities that Perceptivism advocates as well, but Postman makes his case for such capabilities at the common-sense level. His lack of philosophic grounding gets him into trouble when critics suggest that verbal literacy is being replaced by visual literacy. At the common-sense level it is hard to support one over the other without appearing to be dogmatic. At the philosophic level, however, the support for language as the basic instrument of perception is clear cut. Indeed, according to the fourteen stages of perception, recognizing something as basic as a table, a chair, a horse, or a person is already a language-dependent activity. Yet "visual literacy", from appreciating Robert Benchley's on-screen account of the sex life of the newt to the horror of *Apocalypse Now*, depends on that prior level of ordinary perception. Hence, visual literacy is not possible without a thorough enough command of language to provide the basis for ordinary or standard perception. With a philosophic position to fall back on, visual and verbal literacy can be shown to be allies, not enemies. Indeed, the more advanced and abstract the visual imagery the more it depends upon advanced language if it is to have any meaning at all. In distance education, those programs that rely heavily on visual imagery conveyed by television make more extensive use of orginary language than is usually realized. In fact, ordinary language and its organization around meaningful concepts is the key to the educational application of Perceptivism.

Perception and Language

A language is a kind of net thrown into the sea of human experience. What the net catches becomes the ingredients that are collectively available for personal thought and public communication. What it misses remains unidentified and unavailable. Of course what is caught and what is missed will vary somewhat with the interests and the degree of language development in different cultures at different times. For example, basic English is built around a vocabulary of 800 words, and foreigners can master it quickly. Edgar Dale estimates that the typical high school senior knows from 14,000 to 15,000 words.[26] Whereas Webster's Unabridged Dictionary lists about one hundred and twenty thousand words, The Oxford English Dictionary gives definitions for approximately four hundred and fifty thousand entries. Of course, some of the words are synonyms, others are archaic, and many are simple connectives or grammatical variations on a single root concept. Even if the number of different concepts is reduced to two hundred thousand, however, or ten times the average college graduate's functional vocabulary, it is clear that the language itself is a rich repository of concepts. Even when it is stripped of all technical concepts and reduced to the vocabulary

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range of the average user, the basic language for dealing with more or less common events is a powerful instrument. At bottom, the concepts of ordinary language are the instruments by which aspects of experience both real and imagined are singled out and imbued with significance. In a mature language setting concepts generate perception.

Before he has learned a language, an infant can attend to a piece of wood with a metal tip in any number of ways without having any one of them mean any more than another. A baby will like the texture of the wood grain and the taste of the metal. The colour, the grain of the wood, the roundness of the stock, the graspability and a thousand other things could be of equal importance and appeal. And nothing he learns later with regard to language will make it impossible for him to attach the same importance to those features. Yet once he learns that the implement he is handling is a spear and knows what the word means, certain things will be changed. The word will direct him to give special notice to the length and the balance of the shaft rather than the colour and the texture since the former are more important for throwing. If the implement is a dart or an arrow the concept will call attention to yet different features. As a consequence the basic meaning of a concept can be defined as follows: *A concept is a public formula for focusing attention on a limited number of characteristics of the entity under consideration.*

Of course the concept is thereby conceived to include both the word that identifies it and the account of what it means that would normally be its definition.

By focusing attention on key characteristics, a concept also does another job. Depending upon the nature of those characteristics, the concept puts the thing under consideration into a number of categories that limit what can reasonably be attributed to that entity. If a spear must be an implement suitable for throwing then there must be limits on its weight and its length. If it is two hundred feet long and weighs a ton there is good reason to suppose it may be a piece of sculpture done in the form of a spear. In a general way, then, the categories frame the kinds of considerations appropriate to the thing designated. If it is a spear it is inappropriate to inquire about its heart or its intelligence. Mainly, it is the categories with their necessary attributes as well as what they exclude that people learn from experience, not the actual meaning of the concept itself. As a result, language mastery is an intricate combination of vocabulary attainment and category acquisition with the latter depending upon the lessons learned through experience. One without the other is incredibly limited. Yet most of the courses broadcast on educational television networks fail to go beyond teaching the concept basic to the lesson. Any number of mathematics, physics, engineering, aerodynamics, and electronics courses present concepts that are not related to anything outside the technicalities of the subject being taught. Simply put, they teach only to the already initiated. Even literature courses are presented this way.

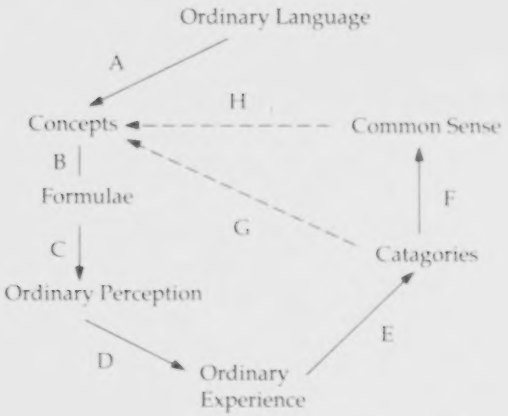
Properly combined in a suitably illustrated and explained lesson, the concept and an awareness of the category to which it or its referent belongs enable the learners to generalize and to apply the point to other experiences for which they know similar category dimensions. They need not have have engaged in the particular activities themselves. Thus, with their necessary attributes and limits of inclusion, the categories establish the basic frame of reference for what is often called common-sense. Within that framework, the concept provides a formula for identifying the thing under consideration in terms of an abstraction one step

removed from experience. That single step of removal from experience is what makes even the most ordinary perception something mediated by a concept rather than directly experienced. While we experience pain directly, we perceive a spear or a table by means of the formula that tells us two things: (1) what to look for, and (2) what significance to attach to it. It is no different for higher abstractions. We experience the touch of a companion directly. But we perceive love or affection or friendship in the kiss, the hug, or the handshake by means of the concept "love", "affection", or "friendship". By providing a vivid sense of the experience basic to understanding the implications of crucial categories of events, movies, television, and video tapes have an outstanding advantage over print.

Imagery, however, is a one-way teaching tool, by and large. What one learns from it cannot be shared with others without being converted into language so it can be spoken or written about. Indeed, unless it is converted into language it may not even be available to think about effectively. The conversion and consolidation of concepts and perceptions learned through imagery back into linguistic form is a facet of instruction generally ignored by those using the new technology to further distance education. Indeed, none of the authors examined in John Baath's book on psychological model mentions it.

The key to the conversion of imagery back into linguistic form for use in thinking and communication is ordinary language. This is especially important for teaching adults. Once experience is widely explored and language is well developed, most adults have enough familiarity with the formulae and the categories involved to learn a broad array of things about a whole range of entities and events that they have not experienced themselves. To learn effectively they need two things that are often not provided: 1) To be shown where new concepts stand in relation to familiar concepts, and categories of experience; and 2) To be encouraged to form trustworthy ordinary language accounts of the key concepts and the categories of experience to which they belong. (Learners might even have to be rehearsed in this process in order to get them started.) In an important respect, then, teaching for useful perception is a two-way affair. Initially, the new technology can employ imagery and ordinary language according to the following model of perception:

Diagram 2. Model for Ordinary Perception.



A. Ordinary language provides the concepts, which are public formulae for arranging impressions. (Yet as initial vocabulary they may be poorly understood.)
B. The concepts, once they are understood, act as formulae to direct attention to select aspects of experience.
C. Perception is simply taking from experience those particular impressions set down by the concept.
D. Ordinary perception by and large structures ordinary experience.
E. Experience, because it is both richer in potential impressions than language and set in an on-going context of occurrences, informs the person of the limits of the categories of things and events.
F. The categories impose severe limits on common-sense.
G. The categories help to further define and refine the concepts.
H. Common-sense adds yet additional refinements to the concepts.

In this manner, the discerning user of ordinary language grows more astute and more subtle in ordinary perception. A program of distance education aimed at reaching people with limited vocabularies and restricted experiences would do well to start by simply improving its audience's use of ordinary language. Even though it fosters perception by focusing attention on a select aspect of actual experience, using imagery to by-pass language and get a point across can prove to be a costly mistake. Unless the point to be made and grasped is made in terms of language as well as imagery, there will be little to work with when it comes time to reverse the process, to equip the learner with verbal command. That equipment is needed to make lessons that were learned available for thinking about and relating to others. Once this is done, each lesson or idea actually told to others enhances the user's command of language. The growth that comes with tutoring others improves the learner's ability to learn at further levels of perception. Indeed, tutoring others is an excellent way to learn, whether the recipient is close at hand or at some distance. When ordinary language and

ordinary perception are well established, distance education is free to build on that vital background in many directions. Visual imagery can then have maximum impact.

Ordinary language performs yet another function that unaided visual imagery does not. By directing attention to the select aspects of experience that go into perception the concepts of ordinary language frame the boundaries of common-sense. By contrast, visual imagery alone does not disclose the nature and limitations of the entities presented. By calling attention to the features of a table, however, and placing it in a category with other inanimate objects, ordinary language concepts set out clear boundaries. That is, it is reasonable to ask how solid the table is but unreasonable to ask about its heart beat. In ordinary language the concept assigns an entity to a category of experience, which in turn shapes critical reasoning. Non-ordinary language does the same thing, but because the concepts employed change the nature of some of the crucial categories of experience, they produce a kind of critical reasoning that differs from common-sense. Perceptivism argues that there are as many different kinds of critical reasoning as there are unique modes of perception. Until distance education comes to grips with those differences it will be less effective than it might be. To show how this can be done, it is necessary to explain the modes of perception and how they work.

The Nine Modes of Perception

Of course, standard perception derived from ordinary language and shaped by central concepts needs no special justification. It functions like the air we breathe. Without it, no perception above the level of the direct impact of sensations would take place. Yet not all post-standard perceptions have a place in an educational setting. Those that produce a trance through torture or starvation have no place because they are immoral. In addition, altered states arrived at by hypnosis or drug use fail to qualify because they by-pass the intellect. They do not further the learner's understanding. Furthermore, fields like astrology and alchemy have no place because they do not meet the minimum conditions for being either forms of reliable knowledge or outlooks crucial to the perpetuation of cultural continuity. What is left, then, adds up to nine modes of educative perception.

Diagram 3.

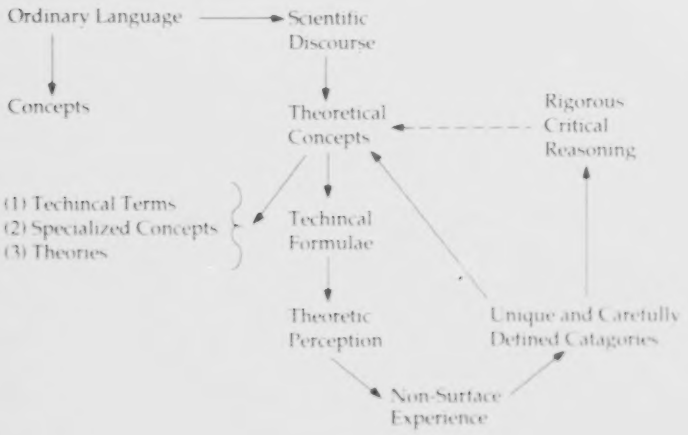
1	2	3	4	
Standard Perception	Theoretic Perception	Operational Perception	Relational Perception	
5	6	7	8	9
Mythic Perception	Primary Perception	Primal Perception	Thematic Perception	Theistic Perception

Each mode offers a different way of looking at things and reasoning about them. Together, the basic content that gives them substance and the nine justifiable ways of perceiving provide the basis for a full fledged education. Indeed, Perceptivism extends the meaning of education beyond knowledge mastery to encompass the ability to perceive things in each of the relevant ways. In order to accomplish this, distance education must insure that the relevant perceptions occur to the learner. In each of the modes beyond standard perception, this involves doing more than making a good presentation. Of them all, perhaps theoretic perception provides the most straightforward illustration of what is involved.

Theoretic Perception

In science, theory is noted for its ability to explain events and to predict them. In biology, Darwin's theory of evolution relies on such technical concepts as survival of the fittest to explain how some characteristics and some entire species are perpetuated while others vanish. In chemistry, the theory of atomic number led Mendeleoff to construct the periodic table and to predict the nature of several missing elements, which were discovered soon after. Throughout the biological and physical sciences, the special theories sometimes confirm standard perception and at other times open up ways of perceiving things that are quite at odds with the common-sense of the day. For example, the microscope brings the world of bacteria, germs, and even viruses within view. As a result, theories quite foreign to those generated by common-sense are developed. For instance, as little as two hundred years ago patients died because doctors refused to wash their hands before performing surgery on the common-sense ground that even if such miniscule things as virtually invisible germs existed, nothing that small could do a person any harm. Indeed, it is the theories of science that are centrally placed in generating the new kinds of perceptions that make the world of non-surface experience accessible. Put in its simplest, terms, the scheme is as follows:

Diagram 4. Model for Theoretic Perception.



Just how different the world of non-surface experience is from that of standard perception was made clear by Sir Thomas Eddington a century ago. After explaining the atomic theory of the structure of matter he described a solid oak table as an airy surface composed of tiny particules in such rapid motion that they kept equally airy objects like fingers or pencils from passing through by a process of mutual bombardment. And that was before Einstein's theory of relativity played havoc with the conventional notions of time and space. Indeed, all through human history the standard perception of the day, such as the view of a flat earth, has been challenged and then replaced by a theoretic perception. That aspect of changing perceptions was put forth very clearly by the philosopher Alisdair MacIntyre in his recent book on ethics:

> The twentieth century observer looks into the night sky and sees stars and planets; some earlier observers saw instead chinks in a sphere through which the light beyond could be observed. What each observer takes himself or herself to perceive is identified and has to be identified by theory-laden concepts. Perceivers without concepts, as Kant almost said, are blind.

What MacIntyre describes is the replacement of a mythical perception by a scientific one. Yet even today standard perception is at odds with the theoretic perceptions offered by science, and that difference creates a serious stumbling block in the learning of scientific lessons. Perhaps a personal experience will make the point clear.

When I taught the theory of the easterly rotation of the earth on its axis to junior high students the most able ones got it quickly. But even models and blackboard illustrations did not get it across to the average and poor students. So I took them all out on a hill at dusk and explained that they were not supposed to see the sun go down. Instead, they were supposed to feel the earth carrying them away from a stationary sun which gradually vanished as the curvature of the earth brought the horizon up to cover it from view. Again, the top 20% got it and the rest did not. For a week I took them down to the train yard and had them sit in a passenger car while the engineer started up either their train or the one next to it. "We're moving, we're moving," they would shout.

On looking out of the window on the other side they sometimes discovered that they were wrong because it was the train alongside them that was moving. Then we stood on a bridge and stared down at the rushing water until they learned to play a mental trick on their senses. Eventually, the students got the feeling that the water was standing still and the bridge was carrying them up stream. Finally, we went up on the hill at dawn to get the theoretic perception. "I see it! I see it!" one student after another would shout. "The earth is rotating eastward and carrying me with it. There goes the horizon dropping away to reveal the sun."

It took three trips, but in the end everyone had the actual theoretic perception. Six months later when they were tested on the theory of the easterly rotation of the earth about 80% of the class got it right. That experience made it clear that teaching for concept mastery was not enough. Only when the extra effort was made to insure that the students achieved the actual theoretic perception involved was the learning widespread. And that is what distance education must do if it wants to teach the greatest number of learners with maximum effectiveness. Specifically, science programs must include an element

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designed to insure that each learner actually achieves the perception entailed by the governing theory. Somehow each learner must have a tutor who makes sure that actual theoretic perception occurs. When this is done the way is paved for technical or operational perception.

Operational Perception

If necessity is the mother of invention, science is the most likely father. Given the close link between science and technology some theoretical understanding is often basic to knowing how complicated devices work. Even so, a youngster who takes apart a mechanical alarm clock and then reassembles it only to find out that it will not work can often tinker with it until it runs as it should. Such an experience produces a clear grasp of the mechanism of the clock. Indeed, the mechanisms by which things work are the concept equivalents in operational perception.

Put simply, operational perception is envisioning how the mechanism of a piece of equipment functions. Often, that perception is best achieved by building the item and making it work.

For example, the generation of youngsters who built flying model airplanes from balsa wood and tissue paper developed an operational perception of what makes an airplane fly that their children do not possess. In a technological age, it borders on madness to raise each generation of youngsters with less operational perception of how an automobile engine or an electric motor functions than their parents possessed. Because of its utility, operational perception deserves an important place in any general education program.

At the level of showing how things work through models and diagrams, televised instruction can do a fine job. Yet distance education must also provide hands-on learning opportunities if students are to achieve full fledged operational perception. That is, each learner must have an opportunity to build the mechanisms in the company of an analyst who will show and explain where and why things went wrong or right. Given models to build and a corrective analyst, each learner could develop an operational perception of all the major mechanisms at work in the world today. Such a student would not be mystified by turbo superchargers or fifth-generation computers. Indeed, such a learner would be in an excellent position to appreciate and understand the working relationship between theoretic and operational perception. Such an approach is a modern version of the Pestalozzian edict—begin with the concrete and proceed to the abstract. Even the teaching of abstract relationships can benefit from concrete perceptions.

Relational Perceptions

One of the things that mathematics, logic, and grammar have in common is that they are all very general ways of showing highly specialized relationships. In simple arithmetic the relationships established by addition, subtraction, multiplication, and division can be given concrete expression through Cuisenaire rods. The square rods of different lengths and colours can be arranged to show how five of the two-unit-length rods form the equivalent of one ten-unit-length rod, and so on. The rods provide an opportunity for the learner actually to see the relationship involved.

Often, however, the student needs help in order to achieve the actual relational perception. In geometry, much the same kind of opportunity for seeing the relationship is provided. The drawing that shows the line bisecting the peak angle of an isosceles triangle also dividing the base line in half is a concrete demonstration. Properly coached, the learner will likely achieve the desired relational perception. Indeed, in mathematics, logic, and grammar, the principle theorems, proofs, and formulae set forth in those subjects designate a relationship. For example, in logic this syllogistic formula specifies a particular relationship in abstract terms: If A is predicated of all B, and B of all C, A must be predicated of all C.[28]

Simplified and rearranged it implies that "If all Toyota's (B) are red (A), and all imported cars (C) are Toyotas (B), then all imported cars (C) must be red (A)." Even that will be too abstract for some learners, however. For them a concrete demonstration accompanied by a detailed explanation will be needed if relational perception is to occur.

In grammar the same problem crops up. The algebraic proposition that two negatives multiplied together make a positive re-appears in a language setting. That is, to say "I ain't got no money" can be translated into a claim to have money after all. Yet learners need much coaching on usage and contextual meaning before they grasp when such an expression is other than a forceful expression of penury.

In mathematics, logic, and grammar, the relationships specified are stated as concepts that take the form of theorems, proofs, or formulae. In order to make those abstractions functional in the lives of the learners, distance education will have to strive for relational perception. A guide is needed who can help the learner find, identify and observe those relationships in operation. Relational perception requires a considerable amount of practice on actual instances, whether they occur in experience, in argument, or in normal speech. Once achieved it gives the relationships perceived new meaning.

Mythic Perception

Annually, parents get an endearing reminder of how completely their young children believe in the extraordinary powers of Santa Claus and the Easter Bunny. A creature who circles the globe in twenty-four hours and delivers toys to all the deserving children by coming down the chimney is no ordinary gift giver. As they grow older, youngsters learn to regard certain folk heroes as mythic figures. For thousands of years perfectly normal grown ups have continued to believe in faith healers as well as in the resurrection of Jesus Christ from the ranks of the dead. Whether it is Santa Claus, Louis Riel, or Jesus Christ, mythology, legend, folk lore, and religion all have one thing in common. In part, they owe their credibility, if not their very existence, to a considerable volume of extravagant language designed to justify the claims made on their behalf.

Mythology, legend, folk lore, and religion are all built upon the foundation of ordinary language. As a result, they incorporate the standard concepts and the customary categories basic to common-sense into the way they are talked about. Santa Claus is often portrayed as running a workshop where all the toys are made. Even a demi-god like Ulysses has all the shrewdness and passion of a normal Greek sailor. Yet mythology, legend, folk lore, and religion rise above the ordinary by means of two very important conceptual devices: 1) Their main ideas

are based on concepts that are larger than life. In terms of scope of abilities, even the Devil is a heroic concept, since capability rather than virtue is the criterion. 2) Their crucial claims draw their support from unusual categories that lie outside the range of those that are confirmed in ordinary experience. They use exceptional categories that then go on to reshape common-sense into uncommon-sense so far as things like miracles or omnipotence is concerned. By taking a figure in each area of concern, a simple chart should make it clear how those special concepts and exceptional categories are related.

Chart 1: Special Linguistic Devices.

	Heroic Concept (or Figure)	Formula	Exceptional Category	Uncommon-Sense Claim
Mythology	1. Achilles	Greatest Greek warrior	All but invulnerable.	Slaughters most of the Trojan army.
Legend	2. The Exodus	The escape from captivity	A miracle	The Red Sea parts to let them escape to safety.
Folklore	3. Bermuda Triangle	Place of mysterious disasters.	Malignant force at work.	Sinks ships, causes planes to crash in good weather.
Religion	4. Noah	Worthy and capable of a superhuman	Informed and aided by God.	Builds the ark and collects a pair of *every* species of animal on earth.

Because they are embedded in ordinary language, the heroic concepts and the exceptional categories are easily constructed by simple extension from what is already known. Even the reindeer that pull Santa's sled through the air are little more than the ultimate team of stage-coach horses raised to the level of fantasy. Further credibility is assured when annual events are staged to create the illusion that the exceptional categories and the heroic figures are confirmed in experience. The carefully constructed passion plays at Oberammergau where Christ's crucifixion is re-enacted always manage to produce an outpouring of belief. Indeed, where religious or mythic ritual are extensive and belief in the extraordinary categories is strong, uncommon sense can often replace common-sense to the extent that people become convinced that miracles and conversations with God are part of their ordinary experience. When that happens such people are caught up in mythic perception.

Of course, the teaching of mythic perception need not go so far as to result in a belief that such things are so. It is enough for it to generate a kind of theatrical perception of what such a condition would be like. That is the kind of perception that a good play creates when the audience momentarily forgets that it is watching a performance. This is something that televised dramatizations have

the power to generate. Hence, when used effectively, such programs of distance education can do a great deal to generate mythic perception.

Even so, to be sure that the perception is actually achieved by the learner, distance education would have to provide a monitor of some sort. Ideally, a summoner who could summon up the perception the way a witch-doctor or an old fashioned story teller might do would be ideal. Make no mistake, mythic perception is a very important part of getting an education, despite its omission by important thinkers like Paul Hirst and Richard Peters. Though it is not, in itself, a form of knowledge, it is something just as important. Mythic perception is a reservoir of ways of seeing things that literature and art make use of in profound and constructive ways. Indeed, it is quite possible that when mythic perception vanishes art and literature die with it.

Primary Perception:

Almost everyone knows that novels, plays, poems, short stories, and serious essays provide compelling portrayals of familiar and unusual situations significantly shaped by the writer's imagination. By making a careful and judicious selection of what to display, serious literature often gives a clearer and sharper portrayal of events than is ever witnessed in ordinary affairs. Literary discourse is therefore a major source of insight into people's feelings, motives, and reasons for doing what they do. The trials of a family man discarded by a callous employer who has no further use for his outmoded and diminished talents are on open display in Arthur Miller's play *Death of a Salesman*. The gifted writer makes the viewer or the reader feel the impact of characters, events, emotions, settings, and relationships with such force that the adept consumer is drawn into the situation being portrayed.

Literary discourse at its best recreates events in the imagination with such vividness that the reader envisions what is happening with a strength almost equal to an experience in real life. Like events in ordinary experience, literary happenings have their merit for good or bad or mixed attached to them as part of the situation they inhabit. The malignancy of the Puritanic zeal with which Captain Ahab pursues the great white whale until it kills him is inseparable from the story of *Moby Dick*. Each serious work of literature is a portrayal of characters or events in such a way as to intimate their worth without ever stating it explicitly. That fresh intimation of worth along with the imaginative portrayal that generates it works like an overblown concept to provide a new and revealing perception of some aspect of a way of life. Indeed, that overblown concept is so important in literary perception that it deserves a special coinage and an appropriate definition. Call it a megacept.

A megacept is a public depiction in which the account of the thing being portrayed makes it as vivid as something actually experienced and brings out its features and characteristics in a manner that intimates value or worth on a scale approximating that of the actual object, event, experience, or way of life.

In literature the megacepts operate on a par with ordinary concepts, theories, mechanisms, theorems, and heroic concepts in their respective modes of perception. What makes literature important, however, is its role as the only mode of discourse charged with using ordinary language to generate new and fresh ways of seeing things with the vividness of actual experience. Sometimes those fresh modes of perception take some time to be understood. When James

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Joyce wrote of the thoughts, feelings, fantasies, and events experienced by Bloom in a single day, people had trouble understanding his novel *Ulysses*. Once his stream of consciousness was described and explained, later readers found it easier to handle. In a very important way, Joyce invented stream-of-consciousness and brought it to us as a new way of seeing things. That megacept generated a fresh and original way of perceiving things and stands as an instance of a primary perception.

Precisely because new ways of seeing things are hard to grasp, that serious literature is difficult to comprehend. It takes practice and considerable effort to learn to read a work of literature with genuine enjoyment. To facilitate that learning, distance education must provide an interpreter who makes the megacepts clear and a dramatic presentation that brings the work to life. On this score present programming often does its job well. Yet it is only through lengthy discussion that it is possible to tell whether primary perception has actually been achieved. For this a companion is needed. Only a companion who shares the same perception will know when the learner has achieved it. In that respect literature is like the non-verbal arts.

Primal Perception

Since the visual arts and music do not use linguistic concepts they must rely on form to guide perception. The artist Vincent Van Gogh used bold swirls of deep blue, black, and purple touched with a rose tint to inject movement into his paintings of the night sky. Initially, this unorthodox form brought howls of ridicule and protest. People simply did not see the night sky that way. After a century of photographs of exploding stars and spiral nebulae, however, people see the night sky a little differently. It is reasonable to give Van Gogh some credit for showing them how to see the night sky as alive with movement. He used significant form to generate a new and different pre-verbal perception of the night sky. Nor was he alone in doing that. As a Pointilist, Serat used unconnected daubs of vivid and contrasting colours to provide a canvas where the eye blended the separate spots into a complete picture. He did for colour what black and white print makers had been doing with tiny points of black ink for over a century. He showed an entirely different method for constructing a colour scene out of spots. In its day it was an original pre-verbal demonstration. It was a primary perception. Today, of course, the separate coloured dots are familiar as the source of the images that move across the picture tube of a television set.

Not to be outdone, Picasso portrayed the frontal view and the profile of a woman's face superimposed on one another on the same canvas. He used that form to illustrate the primal perception of looking at the same face in two ways at once even though such a view is not possible in the normal course of events. Given mirrors or cameras taking double exposures such views have become commonplace. As the notion of "a Picasso face" makes its way into the language, that primal perception starts to become established in critical discourse as something that can be discussed quite readily. Indeed, "a Van Gogh night sky" or "an Emily Carr swirling forest" are almost common enough expressions in some circles to make them concepts capable of guiding standard perception. These are not isolated cases. All important art uses abstract form to shape primal perception. Even the apparent realism of Andrew Wyeth and Robert Bateman has an important element of abstraction in it.

The non-verbal arts offer a fresh way of seeing both the familiar and the unusual. Because it is new, that way of seeing things must be struggled with before it becomes an actual perception for the viewer. It is in that struggle that distance education must provide a coach who can make the encounter become an active perception for the student. As a pre-verbal encounter growing into an actual perception, something like a Van Gogh night sky or a Picasso face has the primal quality of an experience becoming a part of the language. Indeed, it is through primal perception that many new and illuminating concepts are born. That very process of generating new ways of seeing things that eventually expand standard perception earns the arts, their place right alongside science as part of a full fledged education. Even mythic perception rides in on the coat-tails of the arts, since primal perception would be impoverished without that rich resource. In addition, areas of inquiry like the humanities draw heavily from mythology as well.

Thematic Perception:

In history, philosophy, literary criticism, and classical studies, leading themes fulfill much the same function that theories perform in science. That is, Aristotle's theme that each kind of thing develops in the direction of realizing its essence offered an explanation of why Man, the rational animal, ought to seek to improve his rational powers. Since it did not predict, however, the theme is not an actual theory. Even so, it offers a unique way of seeing things and serves as an instance of thematic perception. Plato's theme about objects in the world being like shadows on the wall of the cave and reality being the forms outside that cast those shadows offered a different way of seeing things. Despite the freshness of vision, the Platonic thematic perceptions also stressed the importance of reason.

Thematic perception is different from standard and theoretic perception in a very important way. Standard and theoretic perceptions are actually observed. Thematic perceptions must be imagined, yet they are no less compelling. It goes beyond merely knowing the theme and its implications, however. Thematic perception is rather like being caught up in a play so that you see what is going on in a scene with all the immediacy of an actual event except you are not driven to take part as you might be in real life. It is a kind of theater of the intellect that produces a vision that things might, indeed, be as they are portrayed. To achieve such thematic perception, distance education must provide an illuminator who can make the theme come to life for the learner. To some degree the same service must be provided if the social sciences are to be taught in the most effective manner.

Thesistic Perception

Fields like psychology, sociology, anthropology, political science, and economics are balanced between the humanities and the empirical sciences. When their theses are meant to be predictive they border on being theoretical. The predictive value of Pavlov's efforts to make Alsatian dogs salivate by ringing a bell is very high. There, psychology becomes an extension of biology. Yet where the social sciences become more ambitious, prediction breaks down, as Alasdaire MacIntyre concludes:

> For the central function of the social scientist as expert advisor or manager is to predict the outcome of alternative policies and if his predictions do not derive from a knowledge of law-like generalizations, the status of the social scientist as predictor becomes endangered — as so it turns out, it ought to be; for the record of social scientist as predictor is very bad indeed, insofar as the record can be pieced together.[7]

Often the statement of a law-like generalization is less an instrument of prediction than the assertion of a dramatic thesis. For example, Karl Marx's thesis is that profits accrue from the unfairly rewarded efforts of labour. As a consequence, social history is described as perpetual class warfare, which must inevitably end with the triumph of the workers. In a counter example, Max Weber puts forth the thesis that the Protestant work ethic harnessed the energies of labourers and entrepreneurs alike. In his view, Protestantism is the driving force behind the industrial revolution that brought material plenty to the West. Each thesis provides a different view of what is going on in western civilization. Carried to the limits of conviction, each thesis has spawned an ideology at odds with the other. As ideologies they are taken as literal accounts of what is happening; Communists and Capitalists therefore perceive workers as different kinds of beings. Viewed more critically and less passionately, however, each thesis provides a special way of perceiving events. Hence, thesistic perception offers a vision of how things might be. Like thematic perception, thesistic perception is also a form of intellectual theater. But in the case of thesistic perception, the vision offered is subject to some of the conditions of evidence required by science. To realize that vision as an actual thesistic perception, distance education must provide the learner with an agent who can show him evidence of the thesis in practice. That agent can coach the learner in thesistic perception by acting as a fellow witness.

Summary and Conclusions

When they are not trivialized by being presented for their factual content alone, many subjects offered through distance education are taught for concept mastery. Psychologists and educators alike in John Baath's book on teaching models testify to the inadequacy of striving for concept mastery alone. Skinner's emphasis on positive reinforcement stresses tracing the desired results through to the behaviour that make effective learning possible.[8] Though quite different in his overall approach, Gagne stresses the need for students to consolidate their learning with performances that range from group discussion to tutoring others.[9] The discovery learning described by Rogers, of course, seeks to get the kind of total student involvement that Dewey sought through social problem solving.[10]

In almost every model, a tutor is needed to make sure that the learner achieves the necessary degree of involvement to master the lessons. Perceptivism reinforces that practice. In addition, however, it roots the need for a human agent in the act of perception itself. It opens up pedagogy in two ways. First, it stresses that the way to make teaching less abstract while preserving the integrity of the concepts involved is to make sure that the learner has the actual perceptions that the concepts foster. Such an approach seems bound to reach more learners than are currently benefitting from distance-education instruction. The second identifies the concept of education with acquiring the most important defensible

ways of perceiving things currently available. Such a view sets out the scope that a full-fledged approach to distance education must encompass if it is to teach the nine modes of perceptions. Indeed, those modes provide the overall structure for an ambitious curriculum in the manner shown in diagram 5.

Of course, the illustrations of actual perceptions used as instances in the diagram are drawn from western sources for the most part. The categories are general enough, however, to accommodate the materials, concepts, and perceptions appropriate to any culture whatever. For example, the Muslim religion, Arabic folk lore, and Persian mythology are rich in heroic concepts that yield their own brand of mythic perception. Japanese art and Chinese literature provide their own varieties of primal and primary perception. So it goes through the humanities, social sciences, and the technologies of different peoples. Perceptivism has a great capacity to adapt to local conditions. Yet, as a general philosophy of distance education, it offers a common rationale and a single overall structure for the curriculum. In addition, it appears at a time when the new technology makes it possible for distance education to seek the desired perceptions as long as it remembers that the human agent is a necessary part of the program. Perceptivism makes the human agent a necessary part of the teaching equation. Finally, equipped with Perceptivism, distance education can bring a humanized and unified approach to global education. Its strength is its ability to foster unity through diversity while keeping the learner at the heart of the teaching activity.

Diagram 5. The Nine Modes of Perception.

Fields Serving as Sources	(1) Ordinary Language	(2) Physical & Biological Sciences	(3) Technology	(4) Mathematics Logic Grammar	(5) Religion Folk-lore Mythology	(6) Literature	(7) The Visual Arts & Music	(8) The Humanities	(9) The Social Science
Level of Current Mastery	Concepts	Theories	Mechanisms	Theorems	Heroic Concepts	Megacepts	Significant Form	Themes	Theses
Level of Needed Mastery	Standard Perception	Theoretic Perception	Operational Perception	Relational Perception	Mythic Perception	Primary Perception	Primal Perception	Thematic Perception	Thesistic Perception
Instances	Seeing a flower or recognizing anger	Seeing the Horizon Rise to Block the Sun	Envisioning How a Motor Works	Recognizing a Contridiction in Practice	Envisioning Santa Claus or Seeing Billy Bishop as a war hero	Envisioning Captain Ahab as Symbolizing Puritanism	Envisioning a Van Gogh or a "Picasso Face"	Envisioning Justice as a Platonic Form	Envisioning a Mercedes as Conspicuous Consumption
Needed Human Agent	Indicator	Tutor	Mechanic	Guide	Summoner	Companion	Coach	Illuminator	Witness

Notes and References

1. Zadic is a fictitious rabbi given to such aphoristic statements as "In the the land of the witless/nothing dies of ridicule."
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4. Wedemeyer, C. A. (1981). *Learning at the back door: Reflections on non-traditional learning in the lifespan*. Madison: University of Wisconsin Press.
5. Keegan, D. (1986). *The foundations of distance education*. Bockenham, Kent: Croom Helm.
6. Holmberg, B. (1985). *Status and trends of distance education*. Sweden: Lector Lund.
7. An awareness earned over many years correcting monthly correspondence course assignments.
8. An awareness gained by reviewing correspondence course materials in my area of specialization and consulting on their revision.
9. Baath, J. A. (1979). *Correspondence education in the light of a number of contemporary teaching models* (p. 15). Sweden: Melmo.
10. Ibid., p. 16.
11. Ibid.
12. Ibid., p. 19.
13. Ibid., p. 23.
14. Ibid.
15. Ibid., p. 25.
16. Ibid., p. 26.
17. Ibid.
18. Ibid., p. 70.
19. Ibid.
20. Ibid.
21. Ibid.
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23. Ibid, p. 79.
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31. Ibid., pp. 84-89.
32. Ibid., pp. 71-72.

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La technologie éducative dans l'enseignement à distance, son rôle et sa place: une étude exploratoire

Louise Sauvé, Pierre Gagné, et Thérèse Lamy

Introduction

Dans les établissements universitaires d'enseignement à distance, la participation des technologues de l'éducation aux équipes de conception de cours soulève bien des questionnements sur leur rôle dans l'enseignement à distance (Crick, 1980; Riley, 1984, 1979; Mason 1976). Ces questionnements portent la plupart du temps sur l'intervention des technologues de l'éducation auprès des spécialistes du contenu et des responsables des équipes. Ils sont probablement liés à des facteurs organisationnels: définitions de fonctions, de liens d'autorité, de processus administratifs, etc. Cependant, au delà de ces explications, cette problématique mérite d'être envisagée, selon les auteurs du présent article, dans une perspective plus globale, celle des liens existant entre l'enseignement à distance et la technologie éducative. C'est pourquoi nous tenterons de répondre à une double question: « Peut-on faire de l'enseignement à distance sans faire de technologie éducative?, » et « Peut-on faire de l'enseignement à distance sans technologue de l'éducation? »

La démarche suivie procède en deux temps. Dans un premier temps, nous chercherons à établir s'il y a une compatibilité entre les concepts et méthodes de l'enseignement à distance et ceux de la technologie éducative à partir de définitions extraites de la littérature. Nous examinerons aussi la description que plusieurs auteurs ont fait du rôle du technologue de l'éducation dans l'enseignement à distance. Dans un second temps, nous décrirons quelques indices que nous avons établis pour évaluer le rôle et la place de la technologie éducative dans les établissements universitaires qui pratiquent l'enseignement à distance au Canada. Ces indices ont permis de formuler un questionnaire que nous avons mis à l'essai auprès d'un petit nombre de répondants issus de neuf établissements d'enseignement à distance.

1. Qu'est-ce que l'enseignement à distance?

L'enseignement à distance a fait l'objet de plusieurs définitions (Baath, 1981; Holmberg, 1981; Henri et Kaye, 1985; Keegan, 1986; Peters, 1973: voir Holmberg, 1981). Holmberg et Keegan ont fait une synthèse de ces définitions du concept d'enseignement à distance et en ont extrait les sept attributs-critères que voici.

- La non-contiguité de la communication entre l'enseignant et l'étudiant qui sont séparés dans l'espace et(ou) dans le temps.
- L'importance institutionnelle dans la planification et la préparation du matériel éducatif et dans l'offre des services de support aux étudiants.

- La prédominance, comme base de l'enseignement, du matériel pédagogique préparé à l'avance.
- La présence d'une infrastructure technologique et organisationnelle supportant la communication bidirectionnelle entre l'étudiant et l'établissement d'enseignement à distance.
- L'environnement d'étude individualisé dans lequel l'étudiant réalise ses apprentissages.
- L'utilisation des médias technologiques qui servent à réunir l'enseignant et l'étudiant et à véhiculer le contenu des cours.
- La prédominance d'une forme industrialisée de travail dans le développement et la diffusion des cours, surtout dans les grands établissements d'enseignement à distance qui font appel à la communication de masse.

2. Qu'est-ce que la technologie éducative?

La technologie éducative a elle aussi de nombreux théoriciens. Il faut se rappeler que leurs définitions ont été élaborées dans un contexte de reconnaissance professionnelle et académique, qui a obligé les technologues à la fois à clarifier les limites d'un domaine en émergence et à établir un secteur d'intervention professionnelle particulier (A.E.C.T., 1977; Lachance, Lapointe et Marton, 1978; Romiszowski, 1981; Becher, 1981; Mitchell, 1981; Scholer, 1983; Stolovitch et Larocque, 1983). Revoyons brièvement quelques-unes de ces définitions.

> La technologie éducative est un processus complexe, intégré, mettant en cause des personnes, des procédés, des idées, des moyens et une organisation en vue d'analyser des problèmes et d'imaginer, d'implanter, d'évaluer et de gérer les solutions à des problèmes qui impliquent tous les aspects de l'apprentissage humain. (A.E.C.T.)

> La technologie éducative est donc un domaine d'étude et d'application intéressé à tous les aspects de l'organisation de systèmes et de sous-systèmes éducatifs à travers lesquels des ressources - humaines, matérielles, électromécaniques, monétaires - sont allouées pour atteindre des résultats éducatifs précis et susceptibles d'être reproduits. (Mitchell)

> La technologie éducative est une approche systématique intégrant les diverses fonctions du processus éducatif. Elle vise d'une part à analyser les problèmes reliés à l'enseignement et(ou) à l'apprentissage et, d'autre part, à élaborer, implanter et évaluer des solutions à ces problèmes par le développement et l'exploitation des ressources éducatives. (Lachance, Lapointe et Marton)

Ces définitions sont sous-tendues par un certain nombre de principes et de considérations philosophiques sur l'éducation, la science et la technologie. D'abord, la technologie éducative se veut, par définition, une activité scientifique basée sur les connaissances accumulées par d'autres sciences.

> All technologists should have an interest in developing the most appropriate solution to the given practical purpose or problem. (Thus technology must search all possible avenues and will borrow principles from a variety of bodies of science, depending on the nature of the practical situation.) [...] In the specific case of education, therefore,

> educational technologists should develop and apply methods which are appropriate to the educational purpose or problem under study. (Romiszowski, 1981)

Ensuite, la technologie éducative est essentiellement préoccupée des problèmes reliés à l'apprentissage, qu'elle déclare comme sa finalité, et a choisi pour les résoudre une approche qui est à la fois systématique et systémique.

De plus, les liens entre la systémique, comme science et source de la théorie générale des systèmes, et la technologie éducative semblent très bien établis; la majorité des technologues de l'éducation nourrissent, au moins intellectuellement, sinon dans leurs pratiques, l'idée que l'éducation est un système téléologique et que, par conséquent, l'atteinte de ses buts constitue la finalité au service de laquelle ils mettent toutes leurs connaissances et leurs pratiques. La systémique fournit le cadre conceptuel le plus englobant de la technologie éducative.

Enfin, les ressources éducatives et, en particulier, les médias appliqués à l'éducation sont des objets d'étude fondamentaux de la technologie éducative.

Nous rejoignons ainsi l'analyse de Stolovitch et Larocque (1983) en réaffirmant les cinq attributs-critères du concept de technologie éducative: la systématisation des procédés, la médiatique, la systémique, la scientificité et l'apprentissage humain comme objectif. A présent, en tenant compte de ces caractéristiques, nous allons esquisser les liens à établir avec l'enseignement à distance.

3. Y a-t-il compatibilité théorique entre les deux définitions?

Plusieurs auteurs mettent en relief les relations étroites entre cette forme d'enseignement et la technologie éducative. Perraton (1981) a construit sa théorie de l'enseignement à distance sur quatorze propositions qui soulignent entre autres la multimédiatisation de l'enseignement et à la nécessité d'utiliser l'approche systémique pour faire face à la complexité de l'enseignement à distance.

Holmberg (1982), dans son ouvrage *Recent research in distance education* , identifie deux contributions majeures de la technologie éducative à l'enseignement à distance, soit l'utilisation de la technique des objectifs d'apprentissage pour structurer les contenus en fonction des besoins des étudiants et le recours à l'approche systémique, comme méthodologie de construction de systèmes complexes d'enseignement.

Selon Forsythe (1983), le lien de filiation entre l'enseignement à distance et la technologie éducative découle des facteurs suivants: l'utilisation du design pédagogique et des médias, l'accent mis sur la responsabilité de l'apprenant dans l'apprentissage et, conséquemment, le recours à des situations de communication non contigu entre enseignant et étudiant.

Pour Bertrand et Valois (1982), la technologie éducative appartient au paradigme de la société industrielle. On peut prévoir sa prédilection pour les processus quasi-industrialisés de développement de cours de l'enseignement à distance.

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Enfin, Butts (1986) propose plusieurs arguments expliquant pourquoi l'enseignement à distance est un champ d'application naturel de la technologie éducative. Selon l'auteur, il existe six catégories de problèmes propres à l'enseignement à distance à la solution desquels peut contribuer directement la technologie éducative: la cohérence et la qualité dans la production des cours; le contrôle des coûts et les contraintes dans l'utilisation des médias autres que l'écrit; les problèmes de la diffusion par les grands réseaux TV et radio, difficile à contrôler et très contraignante pour l'apprenant; les restrictions quand à la logique du design pédagogique; les difficultés à appliquer le type de gestion et de contrôle approprié à un système industriel de production et de diffusion; la difficulté à prédire le comportement des étudiants à distance.

A cette liste d'éléments de parenté, nous ajouterions la préoccupation commune de l'enseignement à distance et de la technologie éducative pour les situations d'enseignement individualisé. Des machines à enseigner de Skinner à l'enseignement intelligemment assisté par ordinateur, la technologie éducative a continuellement été préoccupée d'élaborer des systèmes d'enseignement hautement planifiés et contrôlés en fonction de situations individuelles. Or l'enseignement à distance fait appel essentiellement à ces situations pour lesquelles l'expertise de la technologie éducative est précieuse.

Reprenant ces différents liens, nous pouvons établir que la technologie éducative rejoint l'enseignement à distance à cause de son expertise sur les éléments suivants.

- La systématisation des procédés de structuration, de médiatisation et de diffusion quasi-industriels de l'enseignement à distance.
- La médiatique, une des conditions essentielles de la formation à distance, pour établir le lien entre l'étudiant et la source de savoir.
- La systémique, approche privilégiée pour développer cette forme d'enseignement très complexe.
- L'objectif de favoriser l'apprentissage, objet téléologique commun à la technologie éducative et à l'enseignement à distance.

Etant donné cette compatibilité théorique entre l'enseignement à distance et la technologie éducative, ne devrions-nous pas nous attendre à ce que les technologues de l'éducation occupent une place importante et reconnue dans les établissements d'enseignement à distance?

Pourtant, la place que devrait occuper la technologie éducative dans l'enseignement en général est sujette à controverse. Le débat prend racine, selon certains, dans une confusion sur le sens du mot technologie, connotant à la fois la technologie comme produit et comme processus (Romiszowski, 1981). La technologie serait vue comme une discipline liée à des catégories de produits éducatifs et non pas comme un champs préoccupé du processus d'enseignement dans son ensemble. D'autres ont examiné la question avec une lunette sociologique, y voyant la manifestation d'une lutte pour "le contrôle des activités et des participants de la classe" entre un groupe en émergence, les technologues, et un groupe dominant, les enseignants (Nunan, 1983). Certains, comme Riley (1986) rapportent un malaise généralisé dans certains établissements à s'identifier à l'étiquette "technologue de l'éducation" (Riley, 1986).

Malgré tout, la technologie éducative est présente systématiquement dans les établissements d'enseignement à distance offrant des programmes d'études supérieures. Au Canada, Seaborne et Zuckernick (1986) rapportent que la plupart des établissements universitaires, oeuvrant ou non à distance, ont mis sur pied sous une forme ou l'autre des équipes de professionnels de la pédagogie pour supporter le corps professoral dans l'élaboration de matériel de cours. Kevin Smith (1980), dans une revue des procédures d'élaboration de cours dans les établissements d'enseignement à distance à travers le monde, identifie cinq modèles, dont quatre font appel à la collaboration de spécialistes de contenu et de spécialistes de l'enseignement à distance. Même si ces modèles ne font pas appel nommément à des spécialistes de la technologie éducative, tous impliquent qu'un support doit être apporté au spécialiste de contenu et qu'un processus systématique de développement de cours doit être respecté afin d'assurer la qualité nécessaire aux matériels d'enseignement.

Seaborne et Zuckernick (1986) identifient une corrélation positive élevée entre la force de l'engagement des établissements universitaires canadiens vis-à-vis de la formation à distance et la place qu'ils accordent à la technologie éducative dans le développement du matériel de cours. Cela pourrait être un indice de la compatibilité théorique établie précédemment.

Evidemment, quand on place la question sur ce plan, on quitte les sphères théoriques pour une problématique définie par des facteurs organisationnels dominants, comme nous l'avons souligné en introduction. On ne parle plus de technologie éducative, un champ de connaissance, mais de technologues de l'éducation, un regroupement de fonctions. Aussi est-il dans l'ordre des choses de définir de la manière la plus exhaustive possible les fonctions qui sont propres au technologue de l'éducation.

4. Quels sont les fonctions des technologues de l'éducation?

Ely (1972), cité dans Scholer (1983), regroupe les tâches des technologues de l'éducation en trois catégories: (1) le design des programmes, (2) le design de matériel didactique et la production médiatisée , (3) la gestion des médias et des systèmes de diffusion: "[...] the professional on the scene must be a generalist who can relate to such broad areas as educational planning, curriculum development, and teacher education" (Ely, 1976).

Hug (1978: voir Scholer, 1983) mentionne quatre domaines professionnels dans lesquels les technologues de l'éducation peuvent jouer un rôle: (1) la gestion des médias, (2) le développement de matériel didactique, (3) l'étude des médias éducatifs et (4) l'application systématique au design, à l'analyse et à l'évaluation de programmes éducatifs.

Enfin, Mitchell (1981) décrit cinq rôles du technologue de l'éducation.

- *Le consultant pédagogique* discute avec les "clients" sur l'analyse des besoins, sur les objectifs, la prescription des activités pédagogiques, le choix du matériel didactique, et l'évaluation des ressources éducatives et des résultats.
- *Le producteur de matériel didactique* se consacre au design, à la production et à l'évaluation du matériel didactique et des situations de communication pédagogique locale ou à distance.
- *Le développeur de systèmes éducatifs* planifie, fait le design, construit et évalue

des systèmes d'enseignement, d'information ou de communication.
- *Le gestionnaire de ressources humaines* voit à la planification, à la programmation, à la budgétisation, à la prise de décision organisationnelle, à la recherche opérationnelle, à l'analyse des systèmes dans un établissement d'enseignement.
- *Le planificateur éducatif* organise, modélise et gère des systèmes éducatifs sur un plan national ou supra-institutionnel en vue de répondre aux besoins éducatifs.

5. Quelles sont les fonctions des technologues de l'éducation dans les établissements de formation à distance?

Voyons maintenant comment ces rôles possibles du technologue de l'éducation se réalisent dans les milieux de formation à distance décrits dans la littérature.

Harris (1976) de l'Open University décrit trois aspects majeurs du rôle du technologue de l'éducation dans la formation à distance: (1) participation à la conception des cours, (2) à l'évaluation des étudiants et (3) à l'évaluation des cours. Lawless et Kirkwood (1976) expliquent ainsi les compétences requises d'un technologue de l'éducation à l'Open University: être capable de travailler en équipe, connaître les objectifs, les stratégies d'apprentissage, le rôle et la sélection des médias, être capable de développer du matériel d'enseignement, de participer à l'évaluation et à la notation des étudiants, de faire de l'évaluation de cours et de la recherche.

Pour Sauvé (1983), dans l'enseignement à distance, le technologue de l'éducation participe à la structuration, à la médiatisation et à l'évaluation des cours, en mettant à contribution ses compétences dans le domaine des médias, de l'apprentissage et de l'approche systémique. Seaborne et Zuckernick (1986) rapportent que les technologues de l'éducation remplissent les tâches suivantes dans les équipes de cours: ils clarifient les objectifs, définissent le matériel de cours, participent à sa production et à son évaluation. Gagné et Lescop (1986) énumèrent les tâches suivantes: conseil pédagogique, conception de produits et de systèmes et interface entre la conception et la production de cours.

En tenant compte des cinq rôles décrits par Mitchell et ceux répertoriés par différents auteurs qui se sont préoccupés de technologie éducative dans l'enseignement à distance, on peut constater que les tâches rapportées recoupent seulement les trois premiers rôles: consultant pédagogique, développeur de matériel didactique, développeur de systèmes. Quant au rôle de planificateur, il dépasse le niveau d'un simple établissement et on ne peut s'attendre à en trouver trace dans les articles recensés, qui s'attachent précisément à décrire des réalités institutionnelles. Cependant, on peut s'interroger sur le silence des auteurs sur les tâches se rapportant au quatrième rôle de Mitchell, soit celui de gestionnaire de ressources. Il est évidemment possible que des personnes ayant une formation en technologie éducative occupent de telles fonctions. Cependant, il semble qu'elles ne soient pas identifiées comme technologues de l'éducation. La revendication de Mitchell serait-elle trop large? En effet, bien d'autres disciplines peuvent se réclamer de former les gestionnaires éducatifs. Ou la prétention de la technologie serait-elle à l'origine d'un malaise, qui ferait qu'on hésite à s'identifier

comme technologue de l'éducation?

6. A la recherche d'indices de la place de la technologie éducative dans les établissements d'enseignement à distance

Nous avions décidé, à l'origine de cette étude, de faire une enquête auprès des technologues de l'éducation oeuvrant dans les établissements universitaires se consacrant en tout ou en partie à la formation à distance. Pour ce faire, nous avons mis au point un questionnaire, que nous avons ensuite mis à l'essai, autant pour en vérifier les qualités scientifiques que pour voir comment des répondants du milieu réagiraient à la problématique soulevée. La rédaction de ce questionnaire fut l'occasion d'identifier des indices révélateurs de la place et du statut de la technologie éducative dans les établissements d'enseignement à distance. Nous allons les présenter en progressant des indices de surface à ceux qui touchent des niveaux plus profonds des réalités des établissements.

Un premier ensemble d'indices a trait à l'utilisation, dans la terminologie d'un établissement, de titres propres à la technologie éducative dans la désignation des fonctions et des organismes. Il nous semblait que le fait d'utiliser des termes comme technologue de l'éducation, spécialiste des médias éducatifs, conseiller en technologie éducative, instructional designer, etc., pour désigner des postes, ou d'appeler un organisme institutionnel Bureau de technologie éducative ou Institute for Educational Technology, constituaient un indice de l'importance du statut de la technologie dans un établissement.

Un deuxième ensemble d'indices porte sur la perception d'une personne comme technologue de l'éducation par ses collaborateurs. A cet effet, notre questionnaire comportait deux questions. La première demande si le répondant se perçoit comme appartenant à la technologie éducative et une seconde demande au répondant si ses collaborateurs le perçoivent comme un technologue de l'éducation. Des questions complémentaires viennent vérifier comment cette perception d'appartenance est ancrée dans la formation académique et l'expérience du répondant.

Un troisième ensemble d'indices portent sur les tâches spécifiques confiées aux personnes identifiées comme technologues de l'éducation dans les fonctions relevant des trois premiers rôles de Mitchell, les seuls décrits dans la littérature consultée.

Le questionnaire, rédigé en deux versions, française et anglaise, se terminait par deux questions ouvertes. La première demandait l'opinion du répondant sur la possibilité de faire de l'enseignement à distance sans faire appel aux concepts et aux méthodes de la technologie éducative. La seconde question demandait au répondant de s'exprimer sur l'écart entre la place occupée par la technologie éducative dans son établissement et celle qui devrait lui revenir.

La version préliminaire du questionnaire a été soumise à trois professionnels de l'enseignement à distance. La mise à l'essai a été faite auprès de neuf établissements universitaires de formation à distance au Canada: huit de langue anglaise et un de langue franaise. Quarante-six questionnaires ont été expédiés et dix-huit ont été retournés. Parmi les répondants, on trouve douze professionnels et six administrateurs. Tous affirment avoir une formation ou une expérience en technologie éducative.

Il est important de noter que le terme "technologue de l'éducation" est traduit dans le questionnaire anglais par les expressions suivantes: "instructional designer" ou "specialist of instructional design" et "educational technologist." Le choix de ces termes est basé à la fois sur les recherches de Geis et Klaasen (1972) qui les identifient comme les expressions les plus utilisées par les professionnels en technologie éducative et sur l'examen préalable du questionnaire par les trois experts consultés. Les résultats de la mise à l'essai nous ont apportés les informations suivantes.

1. Dans les neuf établissements dont nous avons reçu des questionnaires, aucun des répondants ne porte officiellement un titre associé à la technologie de l'éducation, ni ne fait partie d'une entité administrative identifiée à la technologie éducative. Cependant, la majorité des répondants s'identifient (12/18) ou sont identifiés (13/18) comme appartenant à la technologie éducative. De plus, selon l'évaluation des répondants, les neuf établissements touchés emploient entre deux et douze spécialistes de la technologie éducative.

   De ce premier point, on peut conclure d'une part que les technologues de l'éducation sont bien présents dans ces établissements, mais qu'ils sont difficiles à identifier, puisqu'ils ne portent pas de titre professionnel associables à leur formation et ne travaillent pas dans des organismes clairement identifiés à la technologie éducative. Cela a des conséquences méthodologiques importantes pour une enquête qui essaierait de rejoindre les technologues dans tous les établissements canadiens d'éducation à distance.
2. Parmi les tâches déclarées, les tâches de gestion de ressources occupent une place plus importante que celle qu'on rapporte dans la littérature. Cela laisse croire qu'une enquête sur la place de la technologie éducative devrait intégrer des questions s'adressant à cette dimension qui correspond au quatrième rôle décrit par Mitchell.
3. La problématique soulevée par le questionnaire a suscité des réactions intéressantes. Six répondants ont affirmé qu'il est possible de faire de l'enseignement à distance sans faire de technologie éducative. Sept ont soutenu le contraire. Rappelons que tous les répondants ont affirmé avoir une formation ou une expérience en technologie éducative. Plusieurs ont affirmé que les concepts et méthodes de la technologie avaient cours dans la conception de matériel d'enseignement, sans que leur provenance soit cependant identifiée ou reconnue. D'ailleurs, neuf des répondants, soit la moitié, ont déclaré que la technologie éducative n'occupaient pas la place qui lui revenait dans leur établissement. Voici quelques-unes des déclarations que les répondants ont fait sur cette question.

   "Les technologues de l'éducation sont utilisés comme des techniciens spécialisés."

   "Les technologues de l'éducation ne sont pas assez nombreux."

   "La fonction conseil des technologues est limitée à l'élaboration des cours."

"Elimination of instructional designers from course teams."

"No faculty (formal) training in instructional design methods."

"I would like to employ some people with backgrounds in educational technology - resources permitting."

Si une enquête confirmait cet écart entre l'utilisation de la technologie éducative et la reconnaisance qu'elle obtient, il faudrait croire que le statut de la technologie n'est pas à la hauteur du succès de ses méthodes.

Conclusion

Une analyse de la littérature permet de déduire une compatibilité assez grande entre la manière dont on définit l'enseignement à distance et les concepts et méthodologies propres à la technologie éducative. De plus, il semble que les établissements qui pratiquent la formation à distance emploient des technologues de l'éducation, sans toutefois qu'on leur accorde une reconnaissance professionnelle évidente. Cette situation semble, selon nous, susciter le malaise constant qu'on retrouve autour de la place de la technologie et des technologues dans l'enseignement à distance.

Si la technologie éducative a du succès sans que les technologues arrivent à se faire reconnaître, il faut probablement analyser soigneusement la manière dont ces derniers interviennent dans le processus de l'enseignement à distance. Quelles sont les tâches qu'ils accomplissent? Quelles sont leurs relations fonctionnelles avec les autres intervenants du processus? Comment sont-ils perçus? Quelle est l'image que ces autres intervenants ont de la technologie éducative? D'où tiennent-ils cette image?

La plupart de ces questions exigeront sans doute qu'on utilise des méthodologies d'enquête issues de l'anthropologie. En effet, ce qu'il faut maintenant, c'est observer le clan des technologues dans la tribu de l'enseignement à distance.

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Distance Learning Using Communications Technologies in Canada

Barbara Helm

1. Background

Perhaps because Canadian geography has helped shape its cultural values and behaviours, out-of-school, or distance, learning is a Canadian tradition older than the nation itself. Pioneer children and adolescents living in remote areas studied in their homes before the country was established, and thirteen years after Confederation, the first Canadian — and North American — university, Queen's University in Kingston, Ontario, made it possible for university students to study off-campus through its newly established extension department.[1] Since that time, Canadian provincial governments and academic institutions have continued to support a variety of distance-learning initiatives so that students who otherwise might not have the opportunity to continue their studies would be able to do so.

Although print materials have provided support to Canadian students learning at a distance for the past century or so, communications technology support is relatively recent. Canada's geographic territory is larger than, yet its population is only 12% that of, the U.S.A. Canada nonetheless has been a pioneer in using both satellite and terrestrial long-distance communication systems to link students with their instructors.

The federal and provincial levels of government have continuously striven individually and cooperatively to enable the underserved in remote and rural areas to receive communications services which the majority of Canadians, that is, those living within 200 miles of the U.S. border, have taken for granted. An example of this cooperative extension, or outreach, activity took place during the late 1970s and early 1980s. At that time, the federal government, through the Department of Communications, provided earth stations and satellite time while various partners, including a number of provincial governments, provided other required facilities, personnel, and subject matter content to conduct tele-education experimental projects.

These projects included: extending the distribution range of educational television broadcast signals; linking teachers in remote communities with their counterparts in larger southern centres; and providing one-way video and telephone communication between Inuit communities in the high Arctic in their own language and enabling academic institutions in different locations to share classes, seminars and conferences.[2] Simultaneously, during the early 1980s, the federal Department of Communications also carried out videotext (Telidon) field trials, some involving instruction and instructional support.[3]

The roles of the state, of the universities, and of society itself require careful analysis if we are to guess at the future in Canada of distance learning through new technologies.

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2. 1985-86 Survey

In the mid-eighties, the Department of Communications commissioned a national survey of public and private sector organizations to ascertain what follow-up activities resulted from the experimental projects, the extent to which telecommunications services were currently being used in distance learning, and what the future might hold. A short summary of the findings of that study follows.[4]

2.1 Survey Methodology

Mail-back questionnaires were sent to those involved in distance learning across the country, including heads of university and college extension/continuing education departments, cable television and telecommunications industry executives, training directors for volunteer and private sector organizations, and senior officials in provincial departments of education. Follow-up telephone calls, to encourage quick responses and to gather further details, and respondent vettings of the written descriptions of their organizations, resulted in a final report. This volume appeared as a sourcebook, or compendium, of who was doing what and where in telecommunications-delivered distance learning in Canada.

Within the study, "distance learning" was defined as involving both delivery of instructional content to learners who were removed in time and/or space from the source of the instructional message (often a television lecturer) *and* some sort of feed-back activity undertaken by the learner — whether it be telephone calls to a tutor or completion of terms papers or some combination of activities. "Telecommunications delivery" meant simply that communications technologies such as television receivers or computers or telephone, and so on, were used to communicate with the learner.

2.2 Survey Findings

The study identified 66 Canadian organizations ranging from school boards to education ministries to private sector organizations that used such communications technologies as computers, television, radio, and telephone to provide instruction to distance learners.

2.2.1 Who is studying at a distance?

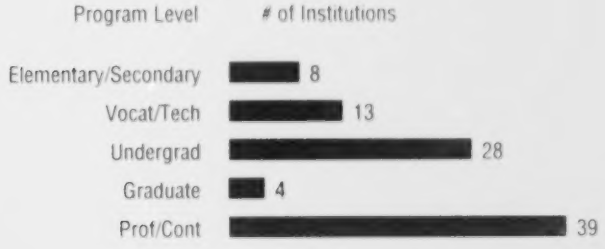
The stereotype of a Canadian distance learner is a working female in her mid-twenties or older, living in a rural or remote area, who cannot attend on-campus classes and may be taking courses at home or in the workplace. While most rural students see distance-learning programs as a way of overcoming geographical distances between themselves and the course-giving institution, many urban students seem attracted because it provides them with many courses (a University of Victoria student could take, and receive credit, for a U.B.C. course, which might not be available from his/her home school) and control over scheduling (a cable TV subscriber could play back in the evening a course s/he

had videotaped during the daytime off of a provincial ETV or community ITV cable channel).

Ranging from a handful to a few hundred per course, the numbers of Canadians studying outside of classrooms are relatively small, especially when compared with those of developing countries such as China (where on-campus seats are available for less than 1% of high school graduates and the Central Radio and Television University expects to have 2 million graduates by 1990).[5] Canadians enroll in distance-learning courses for the same reasons as their colleagues in other countries: off-campus study is usually the only option available for reasons such as geographic separation or limited classroom seats or health problems or child rearing responsibilities, etc.

Unlike the United States, employees in Canada receive little job-related training at a distance; more frequently they travel to training sites. However, discrete professional networks do join forces to provide upgrading for their members, who may be health care professionals, teachers, lawyers or engineers. The net result is that more Canadian institutions report offering distance-learning courses at the professional and continuing education level than at any other (Ref. Figure 1).

Figure 1. Academic Level of Distance Learning Courses



2.2.2 Who is Delivering the Courses?

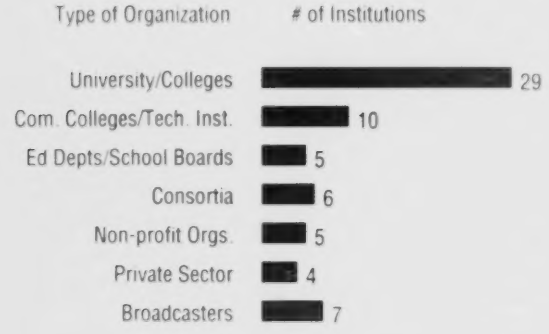
While the mandate and mission of the organizations using technologies in distance delivery is as varied as the student populations themselves, there is a common commitment to serve students who might have no other access to academic instruction, skills up-grading, or professional development opportunities.

2.2.2.1 Institutional Profile

Generally, those organizations using communications technology services to deliver courses to students are less than 20 years old, are either community colleges or extension departments of universities, or provincial communications service providers that participated in DOC-initiated pilot projects involving videotext (Telidon) technology or Hermes and Anik B satellites during the late 1970s and early 1980s. Many report being introduced to the technologies through collaborations with local cable companies or regional broadcasters (such as the Atlantic Satellite Network).[5]

Most of the educational institutions are "dual-mode" institutions—that is, they provide both *on-campus* classroom instruction and *off-campus* distance instruction. The obvious exceptions are British Columbia's Open Learning Institute, Alberta's Athabasca University, and Quebec's Télé-Université, which are "single-mode" post-secondary institutions operating without student campuses. Of these institutions, Télé-Université reports the heaviest use of communication technologies. Of its 60-odd credit courses in each session, about one-quarter are TV-based, one-fifth use computer-based software, and all use audioconferencing. Other institutions depend primarily on traditional print-based correspondence materials, employing communications technologies to provide support, such as toll-free telephone tutoring, or enrichment via educational television programs (Ref. Figure 2).

Figure 2. Canadian Institutions Offering Distance Courses



2.2.2.2. Professional Distance Educator Profile

Distance-learning staff generally learn as they go, and formal staff training in distance-learning techniques and instructional technology is usually minimal at both the sending and the receiving ends. When orientation is provided, it is generally in the form of workshops and/or print materials.

Support staff duties may vary from assisting faculty in course development, to providing a "quality control" function, to liaising with instructional television and satellite delivery services. "Faculty" may specialize in course development and/or delivery, whereas administrators tend to concentrate on the corporate end and on the resources required to deliver instruction.

Although the 1986 survey did not gather detailed information on the work experience, academic background, or personal orientation of those Canadian professionals involved in distance-education, results of a November 1987 survey of Canadian Association for Distance Education (CADE) members indicates that most (70%) have an academic background in Education (46%) or the Arts/Social Sciences (24%). While two out of three have been involved in distance-education for more than five years (usually on a part-time basis), about half have 10 years or more experience in a related field. The majority of CADE survey respondents are 35-55 years old (87%), male (62%), administrators (80%), and earning over $50,000.[*] (This writer's qualitative assessment of distance educators is that the field either attracts (or develops) energetic innovators, agents of social change, and those with a professional commitment to serving the underserved).

2.2.3 How are the Courses Delivered?

2.2.3.1 Facilities and Procedures

Increasingly, local learner centres are being set up with library services, tutor support, and satellite dishes for receiving instructional programming. In smaller remote communities, these learner centres are often community outreach sites served by the nearest community college. More students use learner-centre facilities than study exclusively at home, perhaps because course access may require costly equipment—a satellite dish or a personal computer or audioconference facilities.

For distance university and college courses, the actual administration of student enrolment, academic records, and course scheduling is similar to that of on-campus courses. In most *dual-mode* institutions, responsibility for managing distance learning activities is often assigned to a central office, often within a continuing education or a community extension department, and enrolment and course duration are scheduled at the institution's convenience, when faculty and staff are available. However, many *single-mode* institutions and organizations offering professional development courses provide continuous registration to accommodate students. Students usually have tutors/advisors for academic counselling and deal with separate administration offices for tuition, mailed materials, and so on.

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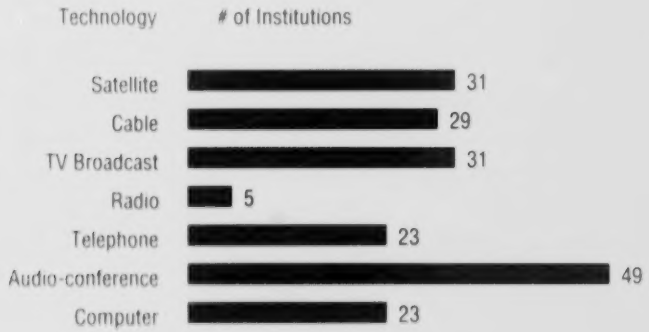
2.2.3.2 Communications Technologies

Most institutions share technical facilities with other organizations, particularly in the case of audioconferencing and satellite services. Many institutions use combinations of technologies, such as TV broadcasts followed by telephone tutorials or audio-conference sessions. As indicated in Figure 3, audioconferencing is used by well over half of the 66 respondent institutions. Although less prevalent and so not included in this figure, other technologies such as videoconferencing, slow-scan television and electronic blackboards are also being used (see Figure 3).

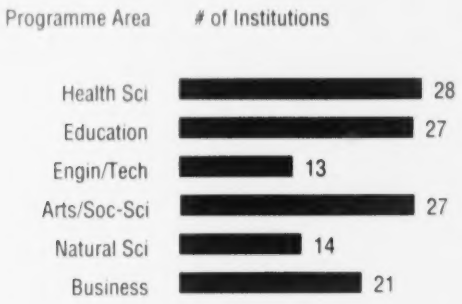
Figure 3. Communications Technologies used in Distance Delivery



2.2.4 What Disciplines are Offered?

Courses in three disciplines, the health sciences, education and the arts/social sciences, are most frequently offered — at the continuing education, professional development and undergraduate levels. The current trend is towards providing sequential and complementary courses, in order that the remote student can complete most, if not all, diploma degree requirements without having to travel to a campus (see Figure 4).

Figure 4. Courses/Disciplines Offered to Distance Learners



2.3 Survey Conclusions

The survey analysis identified mostly positive developments, as well as a few areas where there was room for improvement:

1. The scarcity of in-depth evaluations of the learning- and cost-effectiveness of distance-learning techniques;
2. Some shortages of original Canadian content (for example, Canadians are now taking satellite-based courses from U.S. professional organizations such as the IEEE and could potentially acquire university degrees from foreign academic institutions without ever leaving home); and
3. Relatively few joint ventures between Canadian post -secondary institutions and the private sector for on-site employee professional upgrading (in comparison with the amount of satellite-based delivery of academic courses to industrial premises by the California State (at Chico) or the National Technological Universities south of the border).[10]

During the past decade, providers of carriage services and course content have both learned a great deal about the advantages and constraints of delivering distance learning through various communications technologies. Successful ventures have often been based on mutual awareness of each other's needs and capabilities. In addition, senior management support and strong project leadership are prerequisites for establishing the required human and technical infrastructure, which in itself takes considerable time. Furthermore, with high costs and relatively few students, sharing technical facilities with other organizations is essential for long-term viability. It is expected that there will probably be a continuing increase in the use of low-cost technologies.[11]

3. 1986-88 Update

In the 1986 survey, most respondent organizations stated their intention to increase their use of technologies and to extend their involvement in distance-learning activities. Generally speaking, they have proceeded as planned. In addition, a number of new—and sometimes history-making—developments have taken place.

For example, as a follow-up to the 1987 Francophone and Commonwealth summits hosted by Canada, on-going Francophone and Commonwealth distance-learning centres/networks are being established with headquarters in Canada and support from provincial and federal governments.[12] New provincial/regional outreach initiatives are underway, such as those in Newfoundland-Labrador, Ontario and Saskatchewan. Private sector players with multi-national corporate links (such as AT&T, IBM) are investing in research and development activities (e.g., the Canadian Distance Learning Development Centre in Alberta) and in pilot projects involving computer-based applications, electronic mail, slow-scan video, and voice and graphics transmission. In addition, entrepreneurial Canadians directing inter-continental distance-learning ventures such as North America-Europe satellite-delivered videoconferences or North America-Asia voice/graphic transmission over telephone lines are gaining international recognition abroad while sometimes remaining unknown at home.[13]

At the 29th annual provincial premiers' conference in August 1988, the first ministers, acknowledging that "advances in telecommunications and computer technology are opening up new opportunities to improve accessibility to education and training for Canadians in all walks of life...," made a commitment to support "negotiations of interprovincial/territorial agreements for distance-education."[14]

* * * * *

This field of distance learning, although not new in theory, is innovative in many of its contemporary applications. The academic and technical experience of Canadians in delivering instruction to fishermen in isolated Labrador fishing villages to farmwives on the prairies, and to medical care practitioners in hospitals will continue to be in demand in both information-economy-based and developing countries.

However, along with the heightened visibility and status of distance learning comes increased competition between institutions for student enrolment fees and for public financial support. Today, domestic academic institutions are advertising their off-campus course offerings with increasing vigour. Rivalry between institutions also surfaces occasionally over profitable international development projects.

The challenge will be to maintain some sort of equilibrium between competition (which can result in more attractive offerings to students) and cooperation (which can both reduce costs through economies of scale and stimulate specialization by various participants) in order to meet the needs, not so much of those providing instruction or telecommunications services, but rather of students. There are already encouraging signs in this direction, including the increased portability of credits and availability of cross-institutional course directories.[15]

In addition, communications-technology-delivered distance instruction may yet render invisible the old campus, provincial and international boundaries. As courses become more accessible and credit transfers make them more portable, student loyalties and preferences may be stronger for individual courses than for the institutions which provide them, at home and abroad. Perhaps the critical question for the future is, as international competition and user demands increase: Will Canada become primarily an importer of content and delivery technologies or will it refine existing and develop new strategies to continuing its global leadership role in the delivery of distance-learning services?[in]

NOTE: The opinions expressed in this paper are those of the author and are not necessarily endorsed by the Department of Communications.

Endnotes

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Diversity or Chaos in Canadian Distance Education? A View From Overseas

Anthony Bates

Canada can be rightly proud of its innovations and its enterprise in distance education. Canada is a major innovator in the use of communications technology for teaching.

Yet from the perspective of the client, the adult who wishes to obtain qualifications or new skills, I would suggest that the picture is far less reassuring. Is Canadian distance education, despite its many achievements, adequately meeting the educational and training needs of the Canadian people? I fear it is not, not because distance education cannot deliver the goods, and certainly not because Canada lacks good institutions and people in the distance-education field, but because the structural basis for distance education in Canada needs to be improved.

In the last 15 years, there has been large-scale and effective introduction of open learning and distance-teaching methods throughout the world, initially at the higher education level, but now rapidly spreading to vocational and professional training. There are several reasons for this more recent development. First among them is the changing nature of work. With rapid developments in technology, the idea of being trained as a youth for the same job for life—as, for example, through the apprenticeship system—is becoming less and less tenable. Most people are likely to change careers at least two or three times, and a job increasingly requires continuing education of its holder. This is especially true for already highly qualified professionals, in the fields of engineering, management, the medical professions, electronics, and communications. Second, job mobility is increasing, especially across provincial frontiers. A self-employed professional or an employee of a large company in Canada often moves around North America or even Europe and Japan. The traditional provision of continuing education is not easy when one is first in Tokyo, a year later in Houston, and the next back in Toronto. Lastly, business aims to find more cost-effective ways to train employees. Open learning centres, where employees can "drop-in" for training during breaks, or after work, or during slack periods at work, or distance learning, where employees can learn either at home, or at their desk or work-place, can both provide greater flexibility and lower costs, if properly organized.

With some notable exceptions (such as the Open Learning Authority of British Columbia), Canadian distance education and conventional Canadian higher education have not responded adequately to the major shift in educational demand from "once-and-for-all" education in youth to "education permanante."

For the last 50 years, there have been three main methods of adult education and training: state-organized campus-based teaching; on-the-job "apprenticeship" (essentially learning as you go); and company-organized, in-house training (seminars/courses). These three methods are all primarily based on personal contact between the teacher and the taught and are hence time and place dependent. They are all also costly. As well as the cost of the teaching,

there is the loss of productivity while the learner is away from the job, and in the case of in-company training, there are also often high travel and accommodation costs.

IBM estimates that US $40 billion a year is now spent annually by industry in North America on continuing education — more than the total spent on the whole of the private and public university systems (Longworth, 1987). It is not surprising then that both in the USA and in Europe, distance-education organizations are increasingly moving into the area of continuing education and training, particularly in management and the professional up-dating of technologists. For instance, at the British Open University, there are now more continuing education than undergraduate students (70,000 continuing education; 65,000 undergraduate). The Open University has just started on Open Business School. There is both a need and substantial funding for distance-learning materials in the field of professional continuing eduction, which Canadian distance-teaching institutions have barely tapped. It is both in the interest of the educational institutions themselves, and in the commercial and industrial interest of Canada as a nation, that comprehensive, flexible, and high-standard continuing education is available at a distance, above all provided in a coherent manner so that there is some continuity in an individual's professional development.

Achievements

Canada has an impressive history in distance education, even by world standards. Rothe (1986) reports that Queen's University began credit correspondence services in the Faculty of Arts and Social Sciences in 1889; ICS, a privately funded correspondence school, was founded in 1890 (Hope, 1986); and McKinnon (1986) reports that the first publicly-funded distance-education service for school children started in 1919 in British Columbia in response to a lighthouse-keeper's request for elementary-school courses. Canada was also one of the earliest pioneers in using media for distance education, with the establishment of the Antigonish Movement in 1935, which led to the setting up of farm radio forums, to help farmers during the Depression (Conger, 1974).

In recent times, there has been a wide variety of different forms of distance education in Canada. The most common form is still that offered by university extension services, such as the correspondence courses made available by the University of Waterloo, or the off-campus peripatetic lectures given by travelling faculty. There are also specially created open universities dedicated solely to distance learning, such as Athabasca University. Lastly, there is the growing number of consortia, which combine the course provision from a number of provincial educational institutions, and which may also include provincial educational communications services. The Open Learning Agency in British Columbia, which includes the Open Learning Institute (OLI), the three provincial universities, and Knowledge Network, is the prime example. Probably no other country in the world has such a wide range of institutional arrangements for distance teaching.

Canada is also a leading innovator in the use of technology for education. TVOntario is one of the major producers and distributors of educational television materials in North America. The establishment of Knowledge Network in British Columbia, using satellite and cable, has brought distance-education programmes

into the remotest parts of the province. There are also interesting projects using satellite-distributed teaching, notably in Saskatchewan and the Maritimes.

Weaknesses in Canadian distance education

Despite these developments, the provision of distance education in Canada is patchy, arbitrary, and incoherent.

Accessibility

In most parts of Canada, it is extremely difficult, if not impossible, for students to obtain a coherent degree solely by distance education in the subjects of their choice. For instance, despite the establishment of the Open Learning Agency, which pools the distance-education courses of the Open Learning Institute and of the three provincial universities, it is virtually impossible to obtain a coherent science degree solely at a distance in British Columbia. There are simply not enough credit courses available. Consequently, the numbers of students who have graduated solely "at a distance" in British Columbia can be counted on one hand, compared with, for instance, the 85,000 graduates of the British Open University.

However, at least the Open Learning Agency is working towards a genuinely open and coherent policy of course provision in distance education, even if progress is painfully slow. There are still many parts of Canada where students have no hope of achieving the qualifications they require solely by distance study. Where they *can* start towards qualification through distance-education courses, they cannot transfer easily their credits from one part of the country to another, if they move for job or family reasons.

Part of the reason for this is the relatively small size of Canadian distance-teaching institutions. No single institution has a total enrolment of more than 20,000 distance-teaching students. Most Canadian distance-teaching programs are much smaller, and of even more significance is the small number of students in any particular course. Courses rarely exceed 100 students at any one time. This situation is exacerbated by the short length of Canadian distance-education courses, often 13-week semesters. This has two consequences. Students have to complete a very large number of different courses to obtain a degree, providing many more hurdles to non-completion; and students are spread thinly over many different courses, resulting in diseconomies of scale, points I will return to later.

Quality of field support

Perhaps even more serious is the quality of distance-education provision. Many are no more than glossy correspondence courses, with little field support in the form of tuition and counselling. For instance, the Open Learning Institute tutors are primarily markers, having to handle around 100 students at one time (compared with 25 at the British Open University). There is hardly any face-to-face provision, and although there are student advisors, and students can telephone tutors, in practice the amount of counselling and advice that students get is minimal.

The Open Learning Institute is by no means exceptional in Canadian distance education in the paucity of field support it gives to distance learners. There are of course good reasons why face-to-face specialist teaching support is impossible to provide, particularly in remote areas. Nevertheless, some institutions, notably North Island College in British Columbia, have found ways to reduce the isolation of the distance learner, by providing a generalist tutor and contact point in each remote community. Furthermore, specialist subject correspondence tutors do not have to be responsible for such large numbers of students. With smaller numbers, greater emphasis can be given to tutoring and counselling, rather than just marking. The reason of course why OLI and other institutions give such heavy work-loads to tutors is cost, and I will return to the financing of distance education in Canada later.

This may seem to be an argument for the more traditional form of extension service provided by places such as the University of Regina, where faculty drive out (or even fly) to local townships and deliver lectures. However, quite apart from the questionable cost-effectiveness of such exercises, the level of contact is not generally individualised (as in good distance tutoring). Furthermore, as useful as it is for those who can attend the local sessions, the main drawback of such provision is that it only helps those who can attend the local sessions on a regular basis.

Many people do not realize that the vast majority of distance-education students live in large cities where there is already often good campus-based educational provision. The reason they choose to study at a distance is because, as working adults, it is infinitely more convenient and cost-effective for them to study at home or at work. Their job or family life styles do not enable them to attend regularly at local centres. This does not mean though that they do not need local support, whether that support comes via the telephone or by correspondence or by the occasional face-to-face week-end day school is irrelevant. Rather, it is important that the service is individualized, that the tutor is responding to individual students' needs. This support is sadly lacking in much of Canadian distance education.

Quality of materials

A major reason for recognition of distance education as a viable form of higher education in Britain is the quality of the learning materials produced by the British Open University.

Although a number of Canadian institutions offering distance-education courses depend heavily on extensive reading lists, set books, and poor quality lecture notes, which makes studying at a distance a difficult and frustrating experience for students, those institutions such as Athabasca University and OLI which produce their own materials or buy them from other distance-teaching institutions, such as Deakin University in Australia, usually do a good job, in terms of the clarity, structure, and readability of the printed material. Indeed, one of the impressive features of OLI has been its ability to produce a large number of good quality courses at relatively low cost, compared with, for instance, the British Open University. The problem lies not so much in the design of the printed materials, but in the failure to supplement adequately the printed materials with other media.

Although both the University of Waterloo and OLI have made extensive use of audio-cassettes, and although tutoring or audio-conferencing is more extensively used, Canadian distance-education institutions have generally failed to integrate electronic media such as television and computers with textual materials, which is surprising for a country so rich in communications technology.

This claim may seem dubious, given the extensive production of TVOntario, Radio Québec, and ACCESS Alberta, the inclusion of Knowledge Network in the Open Learning Agency of British Columbia, the extensive use of television for distance education in Canada outlined by Brown and Fortosky (1986), and the wide range of innovative uses of educational media (Waniewicz, 1984; Stahmer and Helm, 1987). However, when one looks carefully at the extent actual use of television in distance-education course provision, one finds either relatively low cost lectures or panel sessions, non-credit broadcast-led television series aimed at the general public, or a plethora of pilots or one-off initiatives rather than actual services. There are relatively few instances of television being deliberately used to complement other media on a consistent basis in distance-education credit courses.

TVOntario has produced a number of integrated teaching courses, combining television with both text and computer-based learning, but these have been isolated non-credit courses, not part of any coherent undergraduate course provision. Several universities with extension services have successfully used cable and/or satellite television for relaying lectures or panel sessions, with remote viewers or students calling in "live" with questions answered on air by the lecturer or panel. The University of Saskatchewan has used satellites to link US experts on agricultural trends with farmers in areas all round the province. A similar approach has been used for veterinary surgeons (Fortosky, 1984). Again, though, these were not part of an integrated undergraduate course provision, and these examples are primarily self-standing television programmes.

A major use of television as part of multi-media credit courses has been by North Island College in B.C., using both Knowledge Network and video-cassette distribution to local centres. In 1987, North Island College had 35 credit courses using video-cassettes as a major medium of instruction (Hart, 1988). Although not the only institution in B.C. to use Knowledge Network in this way, North Island College has made extensive use of what it calls "interactive television", which is to use Knowledge Network's cable and satellite distribution system to carry live lectures or panel sessions, with students calling in with questions that are answered on air. What is important is that these lectures are part of a larger multi-media course, which includes specially produced printed material and lead to undergraduate credits (Catchpole and MacGregor, 1984). Simon Fraser University has used a British television series, "The World at War", on Knowledge Network, as part of an undergraduate history course. There are no doubt several other examples that could be used.

Nevertheless, given the extent and range of distance education in Canada, there are relatively few examples of television being used as part of credit courses, and almost no examples of programmes being specially produced in Canada deliberately to integrate with print materials so that the unique presentational characteristics of television are exploited (see Bates, 1984, for a description). For instance, Knowledge Network has no funds for original production, being dependent on educational institutions for the production of material. The

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resources of educational institutions are usually limited, resulting in cheap programmes, usually lectures or panel discussions, which fail to exploit television's unique presentational characteristics.

The Canadian failure to use the major production agencies of Radio Québec, TVOntario and ACCESS Alberta to produce television material deliberately integrated with credit-based distance-teaching materials is surprising. Athabasca University, for instance, has failed to work consistently with ACCESS, or Télé-université with Radio Québec, to produce high-quality television material to accompany their courses. Canada in consequence has produced almost no original, high-quality television material for distance education, despite its resourceful and creative educational television production agencies.

High-quality television production is expensive; the educational television stations have a different remit to distance-education institutions; audiences for distance-education programmes are not large enough for television distribution; academics have failed to realize the importance of television for distance education; all of which help to explain the Canadian situation.

Two points are worth making. There is now considerable evidence that good quality programmes exploiting the unique presentational characteristics of television enhance the quality of learning at a distance, by helping students' comprehension of abstract ideas, and developing higher-order skills of analysis, interpretation, and evaluation (Bates, 1988). Secondly the main reason that high quality television is not used to any extent in Canadian distance education is structural, in that the production of indigenous educational television is organizationally separate from the production of other distance-education material.

A similar picture emerges with regard to the use of computer-based instruction. Very few Canadian distance-teaching institutions have used either pre-programmed computer-based learning packages, or computer conferencing, and where they have been used, they have been used in isolation, or as rather fringe activities (e.g. computer conferencing as an option, used by one or two students and a tutor). For instance, although Kaufman (1986) correctly identified the strong potential of computers for Canadian distance education, he was unable to indicate any extensive use of computers as part of teaching at a distance — although there is an important example of using computers for student monitoring at Athabasca University (Holt, 1984).

The majority of Canadian distance-education courses then tends to rely heavily on single media. Courses tend to be primarily print-based, or television-lecture based, or rely on audio teleconferencing.

Completion rates

The failure to make greater use of television and computing as integrated components of a multi-media package coupled with the paucity of field support in the form of tutoring and counselling no doubt contribute to the low course enrolments and low completion rates for many Canadian distance-education courses.

There is in fact a dearth of published research on completion rates. However, Hart (1988) states that "Completion rates for popular first year university courses, such as English or Psychology, are usually around 30%, and such courses

rarely attract more than 100 students in a given period, with 20 or less being a more normal number."

This is a rare example of published completion rates for distance-education courses in Canada, but examination statistics from OLI and Athabasca University support this statement (e.g. Finkel, 1984, suggests an average course completion rate of 25% at Athabasca). Furthermore, the conversion rate, i.e. the number of students going on from a first to a second distance-education course, tends to be as low as 10%. These results are particularly disappointing, considering that these are mainly 13 week semester courses, compared with the 32-week full-credit courses at the British Open University.

Hart though points out that Michael Catchpole's "Introduction to Psychology" course at North Island College, which integrates interactive television with specially prepared printed material, "achieves both large numbers of registrations (490 students in September, 1987) and a very high completion rate (approximately 90%)." Each of the British Open University foundation courses, which also uses an integrated multi-media approach and extends over 32 weeks, attracts several thousand students a year, with completion rates between 70% and 90%. Furthermore, over 40% of students who enrol for Open University foundation courses go on to graduate (Woodley, A., 1988) — a completion rate higher than most Canadian single-semester distance-education courses!

These figures suggest that there is no room for complacency in Canadian distance education, but it would be a mistake to attribute low completion rates to the inherent nature of distance education or to lack of competence in people responsible for distance education in Canada. The problems arise primarily because of political and educational structure.

Structural problems

It is one thing for an outsider to analyse problems; it is quite another to suggest solutions! I recognize that a Canadian solution needs to be found to Canadian problems. It would be quite inappropriate to create in Canada a large, autonomous federal distance-teaching institution along the lines of the British Open University. On the other hand, can a country with a relatively small population spread across huge areas really afford to allow 10,000 blossoms to bloom?

The cost structure of distance education differs sharply from that of conventional education. The initial cost of producing a distance-education course is much higher than that of producing a conventional classroom course. Once the course is created, the costs of presenting it are much less, and in particular, the marginal cost of taking each extra student is usually low. A single British Open University foundation course can cost between C$1-2 million to produce, but is likely in its 8-year life to reach nearly 50,000 students, and will constitute between one-sixth and one-eighth of a full degree.

Even allowing for the much lower cost of most Canadian distance-education courses (and we have seen the consequence in loss of quality), there are still far too few students in any single course to make them cost-effective, especially given the low completion rates.

What can be done within a liberal, provincially based educational system to achieve economies of scale? The first task is to avoid unnecessary duplication of effort. Is it really necessary for every institution to offer its own "Introduction to

Psychology" distance-education course, for instance? It would be better to have just two or three high-quality distance-education courses in this area available throughout Canada than to have a large number of poor ones.

Secondly, there is no coherence in course provision in Canadian distance education. What a student can study at a distance depends on what existing institutions are willing to make available as distance-education courses and what other institutions are ready to recognize for credit. Availability and recognition currently depend so much on the whims of individual departments in different institutions. It is essential that in each province there be a plan for the development of a coherent programme of distance-education courses and that priorities be set, so that individual students can put together sensible course packages. Hence, there must be some linking of funding to long-term planning of courses. This is surely a provincial government responsibility, not so much to do the planning itself, but to ensure that the provincial educational institutions themselves are working to an agreed and coherent plan, and to withdraw funding if not.

Thirdly, it needs to be recognized that, in distance education, course design, presentation, and administrative and operational responsibilities are more easily divisible between different institutions than in conventional education. The special skills, expertise, and production requirements of distance eduction need to be recognized. A much higher proportion of distance-education costs go into administrative and operational areas, and less into academic areas, than in conventional education. It does not make sense to have several different institutions all bearing high administrative and operational costs for different education programmes within the same province. Some centralization in these areas is essential.

There is also considerable scope for avoiding duplication in course design and development. Fortunately, distance-education courses lend themselves to team approaches; this makes it possible, indeed desirable, that academics from different institutions work together to produce joint courses in the same subject areas, available across a range of institutions. This would at a stroke solve problems of course recognition between different institutions. The actual presentation of a course, though, could be the responsibility of individual institutions, which may be more able than a centralized institution to organize flexible field support.

A number of structural problems can be solved at a provincial level. Nevertheless, there remains the concern that, even at a provincial level, resources are likely to be insufficient to reap the benefit of economies of scale in certain areas of distance education. This is particularly true with regard to the use of high quality television and computer-based learning, where production costs are extremely high, and can be justified only if large numbers of people make use of the material.

In these areas, there are major structural difficulties to be overcome. Governments commonly encourage distribution systems but do not provide the cost of producing materials for them. Knowledge Network provides a highly sophisticated and comprehensive coverage of British Columbia through satellite and cable, but neither Knowledge Network nor the distance-education institutions have funds for producing indigenous programming. In the British Open University, distribution accounts for only 10% of the cost of television; the

rest goes into production. It is no good having sophisticated communications sytems if there is no approprite material to run on them.

Yet there are excellent centres of production for educational materials, both for television and computer-assisted learning, such as TVOntario and ACCESS Alberta. Unfortunately, though, they are not structured or funded in such a way that they are encouraged to produce materials for distance-education institutions. Some imaginative and bold political decisions need to be made.

High quality television, i.e. television that goes out into the country to collect original material, uses drama or professional presenters, high quality computer animation, etc., is expensive to produce and can be justified only if large numbers of people view it. Unfortunately, the educational needs of enrolled distance-education students are quite different from those of the general public who may be interested in watching educational programmes. This means that programmes produced for a mass audience by companies like TVOntario are often difficult to integrate with distance-teaching material, and are often not didactic enough for distance learners.

One solution to this problem is dual-purpose programming. The high cost of quality television production comes in acquiring the original material. Post-production costs (editing, distribution, etc.) are relatively minor. Thus, programmes could be made in a format that would be of interest to a wide general audience (and which could be marketed elsewhere, particularly in the USA). However, the same material could be refigured or re-edited by a distance-education institution to suit the needs of distance learners for a particular course, thus getting at least two uses out of the same material. This material may well be distributed in video-cassette format, to exploit the learning characteristics of this medium in the way proposed by Bates (1988).

In order to do this, though, several things need to happen. Programmes need to be commissioned by distance-learning institutions to meet their needs; the educational broadcasting production centres need to devise a format suitable for a wide general audience; rights have to be cleared for secondary use by distance-teaching institutions (several institutions may want to use the same material in different ways); and, above all, funding has to be found for this kind of programming.

Here surely is a role for federal authorities. No single distance-education institution or even provincial government can afford to subsidize program material that may be used right across Canada for both general programming and for specific distance-education courses. What is required is a federal fund, for which consortia of distance-education institutions and educational broadcasting production centres can bid. Once produced, the material might then be lodged as a national archive, with rights cleared for subsequent use by other educational institutions. A similar model might also be created for computer -based learning materials. Other models might be considered. What is clear is that if the quality of Canadian distance education is to be improved some means needs to be found to enable the high cost media of television and computers to be combined with high quality print production.

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Removing the barriers

Can established conventional universities and colleges be entrusted with responsibility for distance education, or are not new agencies needed, devoted solely to the very different tasks required in distance education? Even more pertinent, can even a relatively wealthy country like Canada afford to allow several different systems of organization to run side-by-side? There are many who believe that the dual-mode institution, i.e. one that teaches both on campus and at a distance, is the best solution (see Jevons, 1986, for a spirited defence of this). But clearly there are problems with recognition of courses, commitment to funding distance education properly, and the relative priority given to distance education in conventional institutions. The most serious weakness, though, is the difficulty existing institutions have in attracting enough students in their catchment area to justify the high cost of producing high quality distance-education courses, and the subsequent difficulty in providing a wide-ranging and coherent prospectus of distance-teaching courses.

The second major weakness is the role of both provincial and federal governments in distance education. Traditionally, universities, in particular, have been allowed to set their own priorities; but given the unique cost structures of distance education, the need for greater emphasis on continuing and vocational education in the field of distance learning, and the entrenched defensiveness of traditional institutions, should provincial governments take a more interventionist role regarding the provision, priorities, and financing of distance education (as has happened particularly in British Columbia)?

Similarly, given the costs (and benefits) of high quality television and computer-based learning, the need for maximum use to be made of such material, and the uneven distribution of production centres across Canada, should the federal government become involved in the funding of media production for distance education?

Lastly, and most importantly, who is protecting the interest of the clients of distance education? Who is making sure that what is offered meets both national and local needs, and above all the needs of individual distance learners? Who is their spokesman? For instance, how many distance-education institutions have student representatives on their boards? How many have an association of distance-learning students? These students above all need to be listened to; they are mature adults, well able to recognize what they need, and when they are not getting it. How often are distance-education courses made available on the grounds of administrative convenience or because of the willingness of an individual academic to sacrifice his or her time for little professional reward — where what may be required is another course in another area, but where the institution cannot find someone to do it?

Canada has been particularly innovative in its provision of distance education, but perhaps the time has now come for more consolidation, and more selectivity in funding and provision, in order to ensure a more coherent and comprehensive provision of distance education in Canada.

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Canada's Open Universities: Issues and Prospectives

Ross Paul

Introduction

In recent years, distance education has become increasingly respectable at the post-secondary level in Canada, primarily through the leadership of three institutions dedicated to the principles of open learning—Alberta's Athabasca University (AU), the Open Learning Agency (OLA) of British Columbia and Quebec's la Téléuniversité. The rapid growth of AU, the cooperative development of the British Columbia Open University (BCOU) with the Open College and Knowledge Network components of the Open Learning Authority (OLA), and the unique contributions of la Téléuniversité have been well chronicled (see, for example, Mugridge and Kaufman). Their educational theories and their commitments to the part-time adult clientele and to distance-learning systems are increasingly being emulated on traditional university campuses.

The purpose of this analysis is to study institutions dedicated to open and distance education and to ask questions about their future. Conventional universities increasingly are using distance-education techniques to respond to and compete for new client groups. As John Daniel has pointed out in his preface to the Mugridge and Kaufmann book, *Distance Education in Canada*, (Daniel, p. iv), the impetus for Canadian university distance education came more from "a desire to create 'innovative learning systems'" than from the economic necessity that has driven similar developments in third world countries. Whatever the motivations, Canada has become a world leader in distance education at the university level, most notably but by no means exclusively because of the leadership of the three university institutions dedicated to this form of education.

The present and future of Canada's open universities may be examined through five major themes:

1. Traditional and Non-Traditional Values;
2. The Adult Student — Independent or Dependent Learner?
3. Cooperation versus Competition;
4. The Evolution of Educational Technology;
5. Distance Education and International Development

While the analysis reveals significant similarities and some differences among the three institutions, a brief review of their earlier histories is useful in distinguishing them from Canada's more conventional, campus-based universities.

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Canada's Open Universities — Their Distinguishing Characteristics

Whatever the pressures for convergence between conventional and open universities (see, for example, Kelly and Smith), a brief review of the relatively short histories of the three institutions reveals several common features that make them unique among Canadian universities.

The mandates of the three institutions are strikingly similar, primarily aimed at extending access to university education to part-time adult students using distance-education techniques to overcome time constraints, lack of money, and insufficient prior academic credentials. As "open" universities, they have no formal admissions requirements and serve remarkably similar clienteles in their respective regions. Compared to campus-based universities, their students are older (two-thirds between the ages of 25 and 40), more apt to be female (about 60%), and overwhelmingly (over 90%) part-time. Open admissions has not, however, meant that their students are significantly less educated than those in conventional universities.

Nor are their students as rurally based as is commonly expected. In fact, the rural/urban distribution of their students tends to match the ratio in the population as a whole. The author has contended that there may be an important difference between the rural and urban clientele of such institutions. Although students in more isolated regions tend not to have any alternative but to pursue their university education through distance education, their urban counterparts deliberately choose one of these institutions for the independence and convenience they offer compared to more conventional alternatives. It follows that such urban students prefer the homestudy option and its inherent flexibilities of time and place, while rural students frequently would prefer more social interaction and face-to-face instruction than the three are able to provide (see Paul, 1986a, p. 19).

There is very little difference in the three universities' course delivery systems. In each case, the primary mode is to supply students with printed course packages, textbooks, and study materials and to support them with individually assigned part-time telephone tutors. This basic system may be augmented by other learning aids such as in-person seminars and teleconferencing (especially at AU), television (more notably at the OLA and la Téléuniversité), audio and video tapes, and computer-assisted learning.

All three institutions are relatively young (Athabasca was created in 1970 and granted permanent status in 1978; la Téléuniversité in 1970 and 1972 respectively; and the OLI was established and chartered in 1978), but their histories have been rife with controversy, and each has grown in a climate of considerable insecurity.

AU had already been through two incarnations before embarking on its present mandate in 1978. Until then, there had been considerable debate about its future. Just when it appeared all had been settled, the Government of Alberta announced in 1980 its controversial decision to relocate the permanent facilities of the university from Edmonton to Athabasca, a tiny town 100 miles farther north. After much turmoil and high staff turnover, this was achieved in 1984. Some of the after-effects still challenge the university today.

The future of la Téléuniversité has been even more threatened over the past 15 years, most notably in 1983 when the Quebec Government withdrew recognition of its several programs directed at teacher upgrading, effectively cutting out 25% of the institution's enrolments (Guillemet *et al.*, p. 146). This seriously threatened its very existence, at least as a quasi-independent institution, and it was only as a result of the impact of the 1981 Jean Commission on adult education that new impetus was given to its future. Despite its subsequent growth, la Téléuniversité has yet to receive the formal autonomy and letters patent that it has been seeking for nearly 15 years, although it is anticipated that this will be achieved in the very near future (and, in fact, it has operated as an autonomous institution during most of its tenure).

The OLA has not escaped these uncertainties either. Although the terms of its mission were much clearer and more specific than those of the other two from the outset, its somewhat unique status until very recently ("institute" as opposed to "college" or "university") meant that it was not always as readily accepted by the more traditional B.C. institutions. More significantly, rumours abounded for years about an imminent takeover of the OLI by B.C.'s Knowledge Network or vice versa. Even when this speculation was apparently resolved by the decision to create the Open Learning Authority, amalgamating the two boards and administrations, the enabling legislation lagged more than a year behind the decision.

All three universities have achieved relative acceptance in their respective milieu, aided considerably by strong demand for their services and consequent dramatic growth rates. While transfer arrangements to specific programs are an occasional concern, the courses and programs of all three are generally recognized and accepted for transfer to all other Canadian universities. Transferability is not "an issue." Until recently, there were great similarities in their physical facilities as well—low rental office buildings located in industrialized areas of Vancouver, Edmonton, and Quebec City. However, AU's relocation brought an impressive new building in Athabasca; la Téléuniversité has just opened new premises in Quebec City; and plans are underway for new facilities for the new Open Learning Agency as well.

Some institutional peculiarities

a. OLA: Unlike the other two institutions, the OLA is not exclusively devoted to university education. University students constitute about 30% of its student body, although it is anticipated that this will be a significant growth area in the new BCOU. More significantly, there are no full-time academic faculty at the OLA, an important difference when it comes to such issues as research and governance at the respective institutions, and a key factor in its relative cost efficiency. The OLA is the only institution which "paces" all of its courses (as opposed to permitting students to work at their own pace within certain limits).

b. AU: More than the other two, AU has all the trappings of a traditional university, notably, full-time academics, an Academic Council, faculties and deans, an emphasis on disciplinary research, and established university degree programmes. It also has had a broader catchment area than the others, serving students from every province and territory in Canada almost from its inception.

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c. La Téléuniversité: Less independent (as a constituent body of the Université du Québec), la Téléuniversité has been more restricted in terms of its program offerings and range of clientele than the other two, although it has aspirations to extend its offerings to Francophones in other provinces of Canada. However, following a recent review by the Conseil des Universites, it has received the authority to offer Baccalaureate degrees (after students have successfully completed three certificate programs) and is in the process of developing a B. Comm. degree in Hull (jointly with Laurentian University) and a Baccalaureate in Social Sciences.

I. Comparative Analysis by Theme

Traditional and Non-Traditional Values: Although deliberately established to be something different, each of the institutions has felt and responded to pressures to conform to more traditional notions of what a university should be, usually under the general rubric of "academic credibility". None of the three has failed to respond to such pressures, although they have done so in somewhat different ways. These pressures are notably manifest in the following areas:

a. the nature of the academic staff;
b. transfer credit arrangements;
c. teaching with the printed package;
d. cooperative arrangements with other universities; and
e. quantity and quality of research.

Although the context here is Canadian, it is the author's experience that these issues are equally manifest at other established distance-education universities such as the open universities in Britain and in Holland and the several universities in Australia of which distance education is a major component.

a. *The Nature of The Academic Staff*: At none of the institutions was the recruitment of traditional university professors a priority at their outset. Only at AU were such individuals hired, and even then the emphasis was on educational philosophy more than disciplinary expertise. Academic credibility was to be derived from the recruitment of external subject-matter experts as principal course writers who would work closely with inhouse instructional designers, editors, and visual designers to produce high quality courses. Given that the course materials would be produced for all to see, academic credibility would be derived from their "obvious" quality and hence a very high priority was placed on the quality of course development. Very quickly, however, these notions were challenged.

At AU, several unfortunate experiences with external academics led to a deliberate decision not to develop courses in a disciplinary area unless there was at least one resident academic in the field in question to plan and oversee the overall development of courses in that discipline. The trend has been clear: whereas only 29% of the professional and managerial staff of AU were academics in 1978-79, the comparable figure in 1987-88 was approximately 41%. At la Téléuniversité, a deliberate decision was taken in 1981 to develop a professorial staff with sole responsibility for the teaching function, a departure from the previous "industrial" concept of training (Guillemet *et al.*, p. 147). By the 1985-86 academic year, 27 or nearly 30% of the professional staff were academics, most of whom had or were pursuing doctoral

qualifications (la Téléuniversité, 1986a, pp. 7, 9).

While the OLA has thus far resisted hiring full-time inhouse academic staff, it has addressed the issue of academic staff in other ways, notably through cooperative arrangements with British Columbia's three other universities. This is manifested formally in the Open University Planning Council, a statutory body intended to coordinate university-level open learning throughout British Columbia, which includes two representatives from each university and two from the college sector, and less formally through the BCOU's practice of appointing faculty members from other universities to its own Academic Council. These arrangements notwithstanding, the university is hoping to appoint some full-time senior academic tutors in the near future.

b. *Transfer Arrangements*: The issue of academic credibility plagues all distance-education institutions during the early days of their existence. Ian Mugridge, in his chapter on the OLI (Mugridge, 1986), emphasizes the importance given at the Institute from the outset to ensuring easy student transfer into and out of other provincial post-secondary institutions. As he has expressed it in describing the early days of the OLI: "It quickly became obvious . . . that . . . programmes of instruction must not merely meet the standards set by existing programmes in conventional institutions, but also must clearly be demonstrated to do so" (ibid., p. 123).

Both la Téléuniversité and AU have faced the issue of academic credibility as well. One of the most obvious differences between these three institutions and more conventional universities is the visibility of their teaching process and content. As the basic component of all academic courses, the course package is available for anyone to pick up and scrutinize. Ironically, the consequent emphasis on the quality of the courses (to ensure their academic credibility) has sometimes created problems for their students (see section "c" below). Nevertheless, all three institutions have made strong and significant contributions to the acceptability and credibility of distance education and open learning systems to the point that distance education is increasingly recognized and accepted on almost all university campuses across Canada (For a discussion of the most active, see Sweet, 1986).

c. *The Printed Package: The Reification of Knowledge?* All three institutions rely on the printed course package as the primary medium of instruction. This may be a "ground-up" course designed from scratch at the host institution or a "wrap-around" course, in which the student is guided through a course text and perhaps some selected readings by an accompanying study guide and student manual. This reliance on a printed package can pose some major educational dilemmas in a way that belies the innovative and non-traditional approach intended to characterize such institutions. Students relying unduly on the prepackaged materials may not develop their library and research skills sufficiently. The course package may assume a permanence and authority that can undermine the student's ability to adopt a critical perspective, a concern that is exacerbated by the tendency of some course authors to overload the course with content, at least in part because of their awareness that it may be scrutinized by colleagues from other universities.

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In the traditional classroom, both consciously and unconsciously, the lecturer frequently modifies the presentation to suit the needs of the learner on the basis of direct interaction with and feedback from students who are having difficulty keeping up with the material or who wish to pursue tangential issues in seminars and discussions. Once printed and bound, a course package cannot be so readily modified. Despite the best efforts of instructional designers and editors to prevent such content loading, it was soon recognized that "correspondence" education alone was inadequate if students were to succeed. Hence, at all three institutions, the telephone tutor is critical to student success through his or her ability to provide a more interactive learning environment than can be achieved by the course materials alone.

This basic delivery system of course package and telephone tutor is often enhanced in a variety of ways as described in section IV below. However, some difficulties remain. The tendency for distance-education universities to be particularly sensitive to concerns about their academic credibility typically places a higher premium on centralized examinations than is usually the case on a conventional campus. Hence, even where tutors are engaged to lead teleconferenced or in-person seminars on the materials, they are seldom given much leeway to teach related materials or to adjust the course content significantly to match the needs and capabilities of the particular group of learners. More recent responses include the use of seminars, teleconferencing, and computer networking to encourage student/student and student/tutor dialogue. Desk-top publishing, another response, allows the institution to send out more frequent and less "permanent" course materials. For a more detailed discussion of these issues, see Paul (1987) and Woolfe and Murgatroyd.

d. *Cooperative Arrangements with Other Universities:* One of the major characteristics of institutions dedicated primarily to the delivery of education via distance techniques is that they are seldom the "whole" answer to the needs of a given student. Homestudy is a long and arduous route to a degree, one that hardly caters to those for whom formal learning is a new and difficult challenge. Increasingly, however, such institutions are developing effective liaisons and cooperative programs with mainstream universities both to serve their students' needs and to enhance their academic credibility.

The BCOU's Planning Council enhances its university status by providing a broad range of programming, with flexible opportunities for students to transfer among the various B.C. universities.

The development of the Nursing Program at Athabasca University is a good example of how cooperative arrangements can serve students better and enhance the academic reputation of the distance-teaching institution. A few years ago, the University of Alberta found itself unable to cope with the exploding demand for Nurses with degrees and many post-basic Registered Nurses could not afford to take advantage of the few full-time places that were available on the University of Alberta campus. This dilemma gave rise to the cooperative development of several AU courses using the expertise of the University of Alberta faculty. These courses, which matched the curriculum of their on-campus counterparts, could be delivered to Nursing students in their own communities and workplaces and yet be recognized by the University of Alberta within its residency requirements. As a result,

many nurses have graduated from the University of Alberta with a minimum amount of on-campus time thanks to their AU courses, and the academic reputation of AU has been enhanced in the process. The programme has since been extended to the Universities of Calgary and Lethbridge and is expected to result in a B.Sc. in Nursing program at AU by 1992.

While a semi-autonomous unit, la Téléuniversité is nevertheless a statutory part of the Université du Québec and, as such, has credibility as a university. Within the Université du Québec, however, la Téléuniversité's drive for academic status is a constant uphill battle, one familiar to the distance-education divisions on such traditional campuses as Ryerson, Queen's, Waterloo, Calgary, Simon Fraser and the University of Victoria.

From its inception in 1972, la Téléuniversité's history has been one characterized by inter-institutional cooperation and collaboration. Most of these have been directed at the establishment of a distance-education network among Quebec universities, starting with the multi-constituency network of the Université du Québec itself. Rather than establishing its own local and regional centres, as AU and OLA have done, la Téléuniversité forged agreements with other constituent bodies of the Universite du Quebec and with other universities to provide local support to its students. Between 1981 and 1985 alone, some 40 such arrangements were signed between la Téléuniversité and various constituent groups within the Université du Québec network (la Téléuniversité, 1986b, p. 9). These agreements usually made provision for the distance delivery within the local region of courses already offered "on campus" in that region. CANAL (Corporation pour l'avancement de nouvelles applications des langues) is a Téléuniversité-initiated consortium of universities and colleges delivering (primarily) credit courses through various cable television services to most major centres in Quebec. La Téléuniversité also has collaborative arrangements with Johnson State College in Vermont, Athabasca University, l'université de Moncton, Laurentian University, and other institutions outside Quebec (la Téléuniversité, 1986b, p. 16).

e. *Research*: Perhaps more than any other, the issue of research exemplifies the traditional/non-traditional conflict on the campuses of these institutions. Indeed, the problem is a universal one if one explores the issue at such institutions as Britain's Open University, Germany's Fernuniversitat or The Dutch Open University. Typically, the early days of such institutions feature an emphasis on course development at the expense of disciplinary research. Recruitment of academic staff focuses on an educational philosophy appropriate to open education and on teaching interest and expertise rather than on publication records. Once a reasonable base of courses has been realized, however, attention turns to faculty research productivity as acceptance by mainstream universities becomes more important, and as faculty aspire to develop their academic credentials.

Unfortunately, staff recruited for course delivery and their teaching orientations may not be comfortable in the world of research. Even staff with good research records recruited from other institutions may have difficulty coping with the different rhythms of life in an open university. For example, a faculty member coming to AU may face the following differences from his or her previous institution: no students on campus, no teaching or research assistants in most cases, a course-team approach to curriculum design, no

obvious beginning or end to the academic year because students are starting and finishing courses each month, and an academic climate that may not be as supportive of disciplinary research as is the case on most campuses. (For a more thorough analysis of the dilemmas posed for faculty contemplating disciplinary research at an institution like Athabasca, see Paul, 1986a.)

Despite these difficulties, disciplinary research now has high importance at Athabasca University and is a vital factor in faculty recruitment, with the result that there has been a dramatic increase in the number of faculty publications and in research grants received from external granting agencies during the past two years.

According to its own publication (la Téléuniversité, 1986c, pp. 9-11), la Téléuniversité has seen three distinct periods of research activity since its inception. From 1974-77, almost all research was tied to a collaborative evaluation of its own effectiveness (with l'INRS Education) with particular emphasis on the characteristics of its student population. This was "applied" research, the results of which contributed to subsequent developments and revisions in the teaching activities of the university. Twenty such studies were published during this period. Phase II, 1977-82, saw such applied research in distance education integrated into the regular workloads of la Téléuniversité professionals and tied directly to their respective responsibilities. The third and current phase, since 1982, has seen a diversification of research themes, directly resulting from the decision to hire academic staff in 1981 and a strong commitment to research as part of the institution's mandate. As at Athabasca, a professor's rank depends significantly on his or her academic credentials, teaching experience, and scholarly productivity. While official policy since 1984 has given priority to research activities in the fields of distance teaching, adult education, and those directly related to the university's programs (la Téléuniversité, 1986c, p. 7), professors are often reluctant to do research on "the teaching of" a subject rather than on their discipline. A scrutiny of recently published papers at la Téléuniversité (la Téléuniversité, 1986c, annexe 3) suggests a balance between disciplinary and institutional research not unlike that found at AU (Athabasca University, 1986). In fact, AU has recently formalized its commitment to institutional research with the creation of its Centre for Distance Education, a unit dedicated to institutional studies, instructional systems design, and innovative research and development projects. Disciplinary research has not been an issue at the OLA because of its absence of in-house faculty, but this may also have compromised the academic reputation of its university programming and it may yet evolve as an issue on the campus of the new BCOU.

II. The Adult Student: Independent or Dependent Learner?

a. *Whom Do They Serve?* Another common characteristic of these institutions is the evolution in the profiles of and uses made of their academic offerings by their students. Each started with a deliberate mandate to reach students for whom access to a university education was otherwise not readily available. There was no ending of the supply of candidates for such programmes and each has experienced rapid growth since 1978-79. Athabasca's ten-fold

increase in student enrolments was the most dramatic. More recently, however, with increased competition from other universities, and as budget cuts in all three jurisdictions force clearer choices, increasing attention is being paid to who the students are.

Two questions are at the forefront in each institution: (i) the attraction of new clientele to university education, and (ii) retention of that clientele. Like the Open University in Britain, which, despite its stated intentions to democratize university education, succeeded in attracting less than 5% of its first intake of students (in 1971) from working class backgrounds (McIntosh *et al.*), Canada's open universities have not been noticeably successful in broadening the social base of participation. Not only do a significant proportion of their students have a previous university education, but their most successful students are disproportionately drawn from families in high income brackets with high levels of previous education.

In the early days of the institutions, most students took one or two courses from the institution, at least in part because the selection of available courses was limited. As universities built up their course selections, however, more students looked to them for academic credentials and programs. This development very closely parallels shifts along the traditional/non-traditional continuum. If one sees the university as an adult- or continuing-education institution, a high turnover of students is to be anticipated, whereas a more traditional notion of program is consistent with students staying longer and taking more courses. The availability of courses has not been the only factor in the trend to more program students, however, as it is also a product of increasing governmental demands for productivity and of the increasing number of academics recruited from traditional universities.

For both academics and government, a key measure of a university's success is the number of its graduates. The trend may not be as strong as often perceived by university staff, however. At AU, for example, while more than four-fifths of those enrolling in 1980-81 were first-time students, the 1986-87 figure was still about two-thirds, a slow improvement at best. Given that the majority of students still take only one or two courses, some observers have suggested that university staff spend a disproportionate amount of time discussing program students. They also cite AU's elaborate convocation ceremony as another example of the emphasis on graduation, even though many of the university's most successful students may not be interested in formal credentials, or may acquire their degree elsewhere. Further analysis suggests it is not so much student intentions as their difficulty in coping with distance education that produces these figures.

b. *Student Support Services*: Associated with the non-traditional adult-education focus of the new institutions was a commitment to the part-time adult student as a self-actualized learner. This orientation to "androgogy" was associated with a "hands off" policy. It was assumed that the student knew best what he or she needed. As time passed, however, these views were seriously challenged. Dropout rates were alarmingly high, and up to 75% of entrants failed to complete their first course. Open admissions and distance delivery attracted the second-chance learner, but it quickly became apparent that those who had been unsuccessful in more structured and formal classroom environments were even more "lost" in independent self-paced

homestudy modes, with their heavy reliance on the printed word, self-motivation, and time management skills. In response, the institutions added major support services, both academic (telephone tutoring, seminars, teleconferencing, study groups) and personal (counselling and advising services in-person and at-a-distance, workshops). They also attempted to bring all their services closer to the students through the development of regional-office networks.

These initiatives have been successful, but they have also contributed significantly to the cost of distance delivery. As more difficult financial times have hit the institutions, a new issue has arisen: can the institution live up to the expectations for individualized and personal support service that it has fostered in responding to the obvious inadequacies of the earlier systems (Daniel and Marquis, 1979)? Responses have been different in the three institutions. The OLA has significantly cut back its advising and regional-office services in the face of strong fiscal pressures (McInnis-Rankin and Brindley, p. 74), although it is again contemplating an expansion of regional services. At Athabasca, the trend in the more affluent early years of the '80s towards more extensive student-support services, notably through the rapid growth of its three major regional offices, is now very much threatened by the tougher fiscal climate; more efficient, less staff-intensive ways to deliver the same services are being sought.

La Téléuniversité is apparently at an earlier phase on the continuum: one of the major objectives of its 1985-88 three-year plan is to improve the effectiveness of its communications with its students and increase student input into the development and delivery of courses and programs (Téléuniversité 1986e, pp. 51-55). Until recently, la Téléuniversité did not have the level of student-support services offered by the other two universities. As Sweet (p. 179) has suggested, these various responses reflect somewhat different philosophies about the independence of the part-time adult learner and the support systems necessary for their success, with Athabasca clearly the most "interventionist" of the three. One common response to the high costs of student orientation, advising and counselling is to apply new communications technologies to these services, an issue explored in some depth by McInnis-Rankin and Brindley (pp. 76-79).

c. *Measures of "Success"*: Returning to the earlier discussion of how students "use" these specialized institutions, one major concern is criteria for measuring student success. The obvious criterion for mainstream institutions, the numbers of their graduates, is not as appropriate a measure here. Of course, it depends how much importance is attached to program students (as opposed to those seeking learning for its own sake or seeking to upgrade their knowledge and skills in a specified area). Even within this category measurement is difficult. For example, AU has produced only a few hundred graduates in the past 10 years. But many hundreds more have graduated from other universities who could not have done so without AU's help. Almost 800 students who registered in AU courses between 1982 and 1987 graduated from one of the other three Alberta universities in 1986 and 1987 (Powell, 1987, p. 3). However, even if it is conceded that one does not have formally to complete a course to derive what one sought from it, the low rates of completion in distance-education institutions cause concern. Each institution has taken steps to improve these, improving course design and

enhancing the home study mode with seminars, teleconferencing, telephone tutoring, field trips, CAL, study-skills workshops, and study groups. At the same time, they have resisted the most obvious "solution" by refusing to compromise their open admissions policies. As I have remarked elsewhere, completion rates could be made much higher but only at the expense of the very group the university is designed to serve (Paul, 1986b, p. 139).

There is considerable evidence that the individual's first experience with distance education is the crucial determinant of his or her subsequent success and that completion rates are enhanced further by institutionally imposed pacing (see Coldeway, 1982, pp. 29-37). Of the three institutions, only the OLA has formal "pacing" mechanisms. Comparative studies of completion rates are extremely difficult and beyond the scope of this analysis, but documented evidence at all three institutions shows slow but clear trends towards higher completion rates at each. Indeed, exact and measureable improvements in both student completion and retention rates are fundamental to AU's 1988-91 Strategic Academic Plan (Coldeway, 1986).

III. Cooperation vs. Competition

The need for more inter-institutional cooperation, especially in the development of course packages, leads to continuous discussion among distance-education institutions. Various provincial and even inter-provincial accords extoll the virtues of collaborative course development and delivery, taking the view that it is needlessly costly to allow each institution to "invent its own wheel," especially when course packages from different course teams and processes are so remarkably similar.

In practice, however, successful collaborative projects are rare. The well-documented difficulties encountered by course teams (see, for example, Frick, pp. 127-41) are exacerbated when more than one institution is involved. Notable exceptions exist, and evidence suggests that inter-institutional cooperation will be more fruitful in the future when institutions are driven to it by economic necessity.

Among the most obvious cooperative "successes" are North Island College's use of courses from other institutions, notably via its dual registration arrangements with Athabasca; the use of each other's courses by AU, OLA, and la Téléuniversité; OLA's recent establishment of a marketing agency to sell its courses in Canada and abroad; AU's collaboration with the other three Alberta universities to extend opportunities to nurses across the province; AU's native and prison programs run in close liaison with the respective agencies; Alberta's five post-secondary educational consortia; OLA's and AU's participation in the International Universities Consortium; the previously mentioned CANAL network initiated by la Téléuniversité and its television services to other universities both within Quebec and beyond and to the Department of National Defence; and the British Columbia Open University Consortium, which is tangible evidence that universities can work together.

Both the OLA and AU are also actively pursuing college "capstone" agreements in close liaison with selected colleges whereby students will be able to pursue their university degree full-time on the college campuses while receiving face-to-face teaching and tutorial support based on the university's packaged

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learning materials. The first such formal program involving AU began at Fort McMurray's Keyano College in the fall of 1988. Collaboration is also strongly evident at the international level, as discussed in section V below.

IV. The Evolution of Educational Technology

While all three universities are extremely innovative in their educational delivery systems, their basic educational technologies are quite simple — the printed course package augmented by telephone tutoring and a variety of enhancements such as television, audio and video tapes, teleconferencing and computer-assisted learning. In fact, for some critics, the "failure" of the respective institutions to revolutionize the delivery of education via hard technology has been a major disappointment. The relative lack of contribution in this area, however, is neither surprising nor particularly disappointing. The capacity of the simple technologies employed to reach isolated learners should not be underestimated. There are not yet sufficient data to indicate that students would be better served by more sophisticated technologies. More elaborate networks for computer assisted learning or interactive video discs are expensive to acquire and to operate, especially if they are to be made equally accessible to students outside the urban centres, a vital component of each institution's mandate. Furthermore, as relatively small institutions, they have lacked the resources to conduct major experiments in this area or to assume the risk of being on the leading edge of technology.

The above comments notwithstanding, efforts abound at all three institutions to improve their educational delivery. La Téléuniversité has the longest tradition of this with its emphasis on television, the use of PLATO and videotext on various Quebec networks. More recently, it has developed new courses in learning with microcomputer kits and a certificate for teachers using a television series, written package, and computer software. As stated by Guillemet *et al.*, (p. 153): If the prospect of the electronic university seems as yet remote, it nevertheless lies at the heart of la Téléuniversité's raison d'être. OLI's "marriage" to the Knowledge Network will doubtless foster an environment more conducive to experimentation with the applications of educational technology to distance delivery, given the latter's expertise and experience in the application of such technologies as Optel and VSAT to educational delivery.

A significant step forward in this area is evident in Alberta with the 1987 creation of the Canadian Distance Learning Development Centre (CDLDC), a private corporation created by a consortium consisting of Athabasca University, AT&T Canada, Alberta Government Telephones, ACCESS Alberta (an educational broadcasting agency) and two departments of the Provincial Government — Advanced Education and TRT (Technology, Research and Telecommunications). CDLDC has a starting base of $7.2 million to conduct research and to develop and market products and services in the application of educational technology to the problems of distance education, both nationally and internationally. While the promise of such activities still far outstrips the results, communications and course production systems at all three institutions are more integrated and computer dependent than is usually the case on more traditional campuses and their leadership role both nationally and internationally is becoming increasingly apparent.

V. Distance Education and International Development

While it is a relatively new force, international development has become a driving force at all three universities. This is directly traceable to the explosion of interest in distance education in the Third World. It may be the only viable solution to demands for mass university education in Third World countries. Established western institutions (such as Britain's Open University and the International Council for Distance Education) have played a significant part in this development. Such institutions as Sukhothai Thamatirat Open University in Thailand, the new Indhira Ghandi Open University in India, and China's Radio and Television University already serve hundreds of thousands of students and may soon be enroling in the millions. The Open Learning Agency has been involved in projects in Malaysia and Indonesia, Athabasca in Thailand and India, and la Téléuniversité in China, Costa Rica, Columbia, Senegal, Argentina, and Côte d'Ivoire and each institution is in the process of pursuing further opportunities in other developing nations.

Federal and provincial government support for distance-education institutions in these endeavours is increasing, not only because of the interest shown by Pacific Rim countries in particular, but also because of their unique capacities to link with other universities, businesses, and government agencies to respond rapidly to requirements for better education and communications technologies. The commercial possibilities of joint ventures with international partners are of considerable interest both to the institutions and to their respective governments.

Two recent manifestations of the high international interest in distance education are the creation of le Centre international francophone pour la formation a distance (CIFFAD) and of the Commonwealth of Learning, a distance-education consortium of Commonwealth countries headquartered in Vancouver. The three Canadian institutions will play important leadership roles in assisting these two international bodies in the development of educational opportunity throughout the world in addition to their current involvement through such agencies as CIDA, ICDE, IDRC, the World Bank, UNESCO and the European Economic Community (EEC).

VI. Future Prospectives

What is the future for Canada's three universities dedicated to open education at a distance? Their recent rapid growth and development would suggest that it is an extremely promising one. Each one has responded in unique ways to challenges posed by the mandate to extend access to a university education to adult Canadians who would otherwise be denied it. La Téléuniversité started as a pilot project of the Université du Québec and has evolved into a creative and successful institution in its own right; the Open Learning Agency is demonstrating the advantages of cooperation with other universities and agencies to provide the best possible range of programs and services to students; and Athabasca University is seeking to combine the best features of openness and innovation with the disciplinary research of a conventional university.

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Whatever their apparent differences, the capacity of each institution to respond directly and effectively to their particular clientele is increasingly being recognized, and there appears to be no slackening in the demand for their services. Their expertise in instructional systems design is ideally matched to the knowledge society and to new communications technologies. That expertise is in demand not only from governmental and educational agencies but also from commercial establishments seeking new markets for their products. At the same time, other universities are beginning to adapt to these trends as well, especially as the supply of high school graduates declines in numbers while more and more part-time adult learners return to formal education. It is somewhat ironic that, as distance education becomes increasingly respectable and as more and more Canadian universities offer courses off-campus, the need for institutions dedicated exclusively to it may decline. There is also the concern that their growing respectability may lead these institutions to act more and more like their more conventional counterparts at the possible expense of their original raison d'être.

It would be wrong to conclude that Athabasca University, the Open University of British Columbia or la Téléuniversité will disappear or become indistinguishable from other universities in the process. In the final analysis, their identity has more to do with their ends than their means — more to do with open admissions and a philosophical commitment to the non-traditional learner than with the distance-education techniques employed to serve him or her. The days of the defensiveness and insecurity of the three institutions are waning. Increasingly, other universities, governments, and commercial agencies are looking to them for leadership and advice. In the final analysis, it is their innovative nature and their potential to forge new modes of educational delivery that attracts this sort of interest, and it can only be concluded that whatever developments take place should not be at the expense of their dedication to providing open admissions and flexible, individualized learning systems. Without this commitment, many Canadian adults would no longer have access to a university education.

Notes

1. Throughout this chapter, The OLA will be referred to by its former name, The Open Learning Institute (OLI), whenever the context is historical.

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Involvement with Distance Education: Issues for the University

Margaret Haughey

Pick up a brochure for UBC (University of British Columbia), Access or the Distance Education Directory of Ontario Universities and one immediately notes the numbers of courses in which students can study at home and gain university credit. Similar offerings could be obtained through most Canadian universities. The Canadian Association for Continuing University Education (1984) includes courses from 26 universities in its latest directory. Yet many faculty members are unaware of the extent of their own university's involvement in distance education and the implications for the institution. Often it was the circumstances of distance education's birth—dependence on soft money (transitory or one-time grants), for example—that ensured its invisibility. In part, popular ignorance came from the view of distance education as a mere alternative delivery strategy to "extension."

Cameron (1984) defined organizational adaptation as "modifications and alterations in the organization or its components in order to adjust to changes in the external environment" (p. 123) and suggested that, in view of the increasing complexity and turbulence of organizational environments, organizational adaptation must become a standard feature to ensure long-term survival. He went on to say that a definition of adaptation as an interaction between an environment and an institution, supports an ecological-deterministic view of organizations as organisms. In a Darwinian sense, they must adapt or die. An alternative view would point to managerial choice as the crucial factor. The manager chooses from the environment those features that provide an impetus for adaptation (change), then pursues a course of action through the management of focus, and the vision of meanings, of symbols, of physical space and time (Bennis and Nanus, 1985), all of this to bring the choice into being as a part of the work of the organization.

Universities are generally considered conservative institutions. Bailey (1977) counselled that the "eternal facades" must be preserved while, almost imperceptibly, the interior is transformed. Distance education, therefore, would be a covert operation were preservation of "facades" the major priority. But the facade may not be easy to fix. Pedersen and Eleming (1981) note that the university is a complex organization where "academic activities in general are embedded in a climate of ambiguity and uncertainty" (p. 4). Many metaphors help to elucidate meanings for the university as organization. Cohen and March (1974) see an "organized anarchy" where "similar issues are raised year after year, as new cohorts of staff and students enter, but different (temporary) solutions are found" (p. 89). They highlight the lack of agreement about solutions and the uncertainty of continuing commitment to a course of action. Clarke (1983) saw universities "as preeminent examples of loosely coupled systems," a reference to Weick's (1976) notion, which allows "portions of the organization to persist and evolve independently of other parts." The danger is that although an innovation or change can more easily become part of the work of the organization, "the retention of archaic traditions" may also endure. The loose coupling

metaphor does suggest the autonomy of individual units that can choose goals which may conflict with those of other units, but the conflict that may arise may be ignored. Mangham (1982) used the metaphor of organizations as theatre to point out that in universities "no situational script is safe . . . all may have a hand in rewriting the scripts" (p. 60).

The acceptance of distance education as part of the mandate of universities would then appear to be problematic. Certainly, such images suggest that while some loosely coupled units may already be involved, there is always a possibilty that distance education will not be generally accepted or sustained. The compartmentalization of academic staff into faculties and departments, each most concerned with the values, procedures, and issues associated with its own discipline, mitigates against the adoption of a single initiative. What then has encouraged the development of distance education at Canadian universities? The demography of the Canadian population, which has affected the student body of the university and increased public and governmental pressures to relate universities more directly to social concerns, has been a factor, as have been the established traditions and on-going commitments of the individual institutions.

The changing environment

During the last twenty-five years, universities in Canada have come through a boom-and-bust cycle. The expansion of university populations in the sixties was followed by the decline of the seventies. Vanderkamp (1984, p. 52) commented that "the general pattern shows a slow rate of growth in participation rates during the early fifties followed by rapid growth from 1955-71, and a period of little growth with fluctuations during the seventies."

Campbell (1975, p. 53), in discussing the "so-called 'steady state' of the seventies", declared that the sixties saw "rapid expansion accompanied by general public approval." The agenda for universities in the seventies was to use this expected easing of numbers to put emphasis on "innovation and the attainment of quality" (Munroe, 1973, p. 48). It quickly became evident that, while the participation rates for 18-24 year olds had tailed off, the universities' FTE (full-time equivalent) enrolments continued to increase. Between 1970-71 and 1984-5 the figures increased by nearly 200,000 to over half a million students (Decore and Pannu, 1982, p. 33). The shift in the age structure of Canada's population was responsible for this continuing increase. "While the number of full-time students from the 18-24 year old age group steadily decreased, the older 'baby boom' generation entered the age range normally associated with part-time studies and demand grew for improved access to post-secondary facilities" (Sweet, 1986, p. 169). At the same time, the universities' share of educational funds started to decrease: "It is evident that cutbacks in university expenditures had become a fact of life throughout Canada by the late 1970s and continued in the 1980s" (Decore and Pannu, 1986, p. 42). The compounding effect for universities was one of less funds and more part-time students. Knapper (1985) has suggested that universities were relatively unprepared for these changes, and their attempts to address the needs of "mature learners, who are older, may lack academic preparation, but who also bring to their studies a broad range of life and work experiences" has led in turn to "a host of challenging problems and opportunities" (p. 1).

These enrolment changes came at a time of critical public questioning of the university's role and relevance. Much public and faculty writing in this last decade has focused on the increasingly pluralistic nature of universities, on a lack of consensus on their goals, and on a need for greater responsiveness to societal concerns. These fiscal and societal issues are still of concern. Wagner (1987, p. 4), in outlining the challenges faced by university administrators, mentions the erosion of operating budgets; greater competition among post-secondary institutions for budgetary resources; specific targeting of funds, the general intent of which has been to facilitate greater efficiency and institutional accountability for performance; and general public disenchantment with the university's role in Canadian society.

The most consistent expectation in recent years has been that the universities would put more emphasis on the relationship between learning and work. It is the major thesis of the 1983 Employment and Immigration Canada document *Learning a Living* where it is clearly expected that educational institutions will be more responsive to societal concerns. This document also sets out what the committee sees as the major factors inhibiting change. The first three are the "rigid internal focus of the University; a lack of sufficient attention to Continuing Education as a means of meeting changing needs and as a relatively untapped funding source, (and) a need to recognize and incorporate new technology" (1983, p. 33). The committee seeks a strengthening of the relationship between society and university. It suggests an institution that would be more active in identifying societal concerns and that would use its resources to respond more quickly to these concerns. It seeks an expansion of professional and continuing education options structured to take into account learners' needs and ready to use technology to provide the programs. The document then supports the principle of lifelong learning and the broadening of access to education.

The rationale for lifelong learning has been a long-term concern of Canadian educators. One of the first popular proponents of lifelong education was Faure (1972), who saw it as a principle that could reform education at all levels. He emphasized the democratization of education, the reduction of educational inequalities, and the provision of opportunities for self-actualization in adult learners. In Europe, "life long education" has been synonymous with recurrent education and the integration of work and study in options such as distance education. Both these foci demand a reexamination of the closed nature of the educational system. In accepting the principles of lifelong learning, higher education would have a basis from which to reassess its role.

Universities must, then, consider the impact of lifelong learning on traditional university programs; they must consider the adoption of continuing professional education as a serious commitment; and they must consider the effect of new technologies on the educative process. If universities claim to be institutions where knowledge is shared and society enhanced, then they cannot afford to ignore trends accepted elsewhere in Canadian society.

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Distance-Education Initiatives

From their earliest days, most Canadian universities were aware of the needs of the working student and offered evening, weekend, and summer classes to help students complete their programs while working. In many instances, what began as a single night class evolved into off-campus programs where most of the coursework for a degree could be obtained from a travelling professor at a site remote from campus. Some of the earliest users of technology for delivery to remote sites were Memorial (1969) and Waterloo (1968) Universities where television, video or audio tapes had been used to deliver instruction. In general, however, the use of technology was not a serious option, despite the success of the British Open University in attracting mature students at a time when the traditional university student population numbers had started to decline.

From 1977, the federal government made new satellite technology available for educational programming. Three provincial governments set up institutions based on the Open University model; Athabasca University, Alberta, Télé-Université, Québec; and the Open Learning Institute, British Columbia. Although their development has been watched with some interest by traditional universities, they have yet to be felt as major competitors in the educational stakes. Part of this nonchalance may be due to the fact that their students are neither visible nor entirely from one province. Further, they come from an age group more often associated with continuing rather than traditional higher education (Smith, Daniel, and Snowden, 1984; Mugridge and Kaufman, 1986). Many institutions were involved in the 1975 Hermes satellite experiments and some continued their involvement with the Anik-B and Anik-C satellite experiments (Robertson, 1981). Perhaps those most interested in the outcomes of the projects were not individual institutions but rather provincial governments, which saw public education by satellite as a popular initiative. It would demonstrate provincial commitment to education of the working adult.

In some ways, TVOntario, Saskmedia, and Knowledge Network, have done more to change public attitudes to learning in this last decade than any other public agencies. Twenty-six institutions are listed in the Canadian University Distance Education Directory (1984), but the extent of their involvement is not generally reflective of their on-campus program offerings. Nor do their program formats reflect the variety of communication media available in Canada.

In almost every province at least one institution offered distance education. How did this happen? What factors were considered? Which opinion leaders persuaded colleagues to embark on brave new ventures with non-traditional learning patterns and new technology? As Sheehan (1985, p. 77) suggests, we are unlikely to know the answer to this last question; university histories tend to describe far-sighted boards of governors who accept the recommendations of their gifted administrators without acrimony or recrimination, and where staff serenely follow their leader's wisdom.

Issues to be Considered

Genuine involvement in distance education means acceptance of the principle that learners, regardless of their geographical location and personal or employment situations, have a right to a university education. The physical boundary of the campus, originally adapted to include off-campus teaching classrooms, would now include the homes of its students. No longer is place one of the criteria for the teaching-learning process. Those who consider teacher/student presence essential may not like this.

The principle of entitlement to university education also changes the notion of time. Originally classes were "daytime only". Then university time extended into evenings and weekends. Time is no longer a significant variable, and this has implications for semesters or terms. Is our September-to-April year still appropriate? Because teaching is only one of the functions of a university, the traditional summer research furlough is likely to continue. The continuing impact of the part-time student and students' desire to complete programs as economically as possible have been factors in the growth of spring and summer courses at universities. Data from the University of Victoria indicate that most summer-school students traditionally registered in Education are now in the Arts faculty (Haughey, 1985). At least 40 percent were employed part-time students who obtained enough credits during spring and summer to be classified as full-time students. Another major implication of the principle is that the emphasis is now on the learner rather than on the program. Clark (1983) highlighted this issue when he pointed out that for faculty "the most demanding part of their environment is other academics in the same field" (p. 207) and that, in arguments between discipline-driven faculty and consumer-oriented sectors, the latter would be effectively blocked by an inward looking faculty. From a learner's perspective, the options for university study expand. Since, as indicated earlier, distance-education students are not "visible", only the registering institution knows where the student lives and which is the closest traditional institution.

The principle of entitlement also accords adults the right of access to post-secondary education. For many academics, the question is less one of rights than of quality. If more students are admitted, will not standards decrease? This seems to reflect the economic principle that what is scarce is valuable. The basis for this viewpoint may be the traditional admission and examination systems, where entrance requirements and grading procedures are presently monitored. Any increase in traditional numbers might well make the system unwieldy. Some factors said in *Learning a Living* (1983) to contribute to universities' inability to address changing labour market and social conditions were "aging plants and facilities" and "high pupil/teacher ratios in demand areas and also an overloading of space equipment and facilities" (p. 33). Where faculty consider themselves already heavily burdened with teaching responsibilities, they will not consider expansions of educational opportunities that involve further teaching.

The principle also has implications for the present instructional system. As it is presently constituted, the teaching act is considered to be of primary importance in student learning. And when classes are large—the norm in most undergraduate programs—professors have to depend on the lecture format to carry out instructional intent. In distance education, one of the major issues to be decided is the learning theory to be accepted by the administrative staff. That theory will determine the form of distance education to be adopted. A theory

which stresses knowledge as (academic) content and considers teaching to be the transmission of knowledge, may well adopt the "industrial" model (Peters, 1971), where administrative energies are expended in designing and maintaining a publishing and delivery system. Such models tend to consider content as value-free and timeless, and these models stress a common format for all learning materials. The theory may on the other hand reflect general principles of adult learning (Brundage and MacKeracher, 1980) in which the learning process itself has high priority. The process may be understood on an information-processing model that stresses specific sequential knowledge mastery, or on a model that emphasizes individual learning styles and demands a larger repertoire of learning options.

The most common administrative model is that of the course development team. Learner-focused models frequently use a variety of delivery media. From the administrator's perspective, the course team model changes the role of the faculty member. As one in a team, especially where decision making is by consensus, the faculty member's expertise in content and instruction is open to criticism by other team members. Riley (1985) commented that in British Open University teams, where most members are from the same content department, the level of anxiety was highest when colleagues were required to react to one another's course materials.

In the industrial model, the faculty member most often provides the content in a written form and educational designers (called transformers in Australia) rewrite the materials as necessary to ensure that basic principles of logic, coherence, and language levels are adhered to, and add objectives and learning tasks where appropriate. Regardless which model is chosen, both put new demands on faculty. Preparation of course materials is presently not considered separately from teaching in deciding on faculty workloads, but how is faculty workload to be allocated if the person is developing course materials? Should delivery of a distance-education course be considered equivalent to teaching an on-campus course? It is generally recognized that research publications carry most weight in faculty promotion decisions. Involvement in distance education may mean that for a time most of a faculty member's energies are given to the production of course materials. Under what conditions would these be considered a publication and how much weight should they be given? The possible adoption of distance education also poses a series of administrative issues. Should it be the work of a separate unit or should it be integrated into each faculty? For example, in many Australian universities, faculty members teach both on-campus classes and distance-education students. In other institutions, faculty members join a separate unit of External Studies when they teach in distance-education programs. In either case, the question is which programs to fund for development and how to maintain quality. Would the same units take on the tasks of advertising for students or marketing completed programs? What should be the role of the Extension office in distance-education activities?

On the question of funding, besides any initial funding for new positions, would the present audio-visual and printing capabilities of the institution be able to meet an increase in demand for services, or should capital funding be sought for new equipment? One frequent by-product of a distance-education system has been the accelerated adoption of computer technology for both administration and printing. If new equipment is to be purchased, where will it be housed, who will maintain it, and how will access be regulated? Much of a development

budget is absorbed by salaries for temporary personnel (e.g., sessional lecturers or research assistants), but dollars are also expended on hardware items such as video and audio cassettes that are essential for the development of one set of the materials. Depending on the institution, these budgets may also be required to cover labor costs and direct costs associated with the production of the audio-visual components. Recovery strategies for initial development costs should be considered. Delivery costs, most often the costs of printing, and mailing and instructor and tutor salaries are usually recovered from student fees.

How "permanent" are the developed materials? From an economic perspective, delivery costs can be amortized over the "life" of the course and savings realised. A related question is the fee paid by the distance student. Should such students be required to pay more for the benefit of being able to study at home? Should such fees be allocated to the distance-education course unit or go directly into general revenues? Whether a centralized or decentralized unit is developed, there will still be need for extensive cooperation with other units on campus. Printing services and audio-visual services have already been mentioned, but an increase in student numbers would also increase the workload of admission and registration services.

The library is considered a major source of information for university students. While distance education puts extra pressure on holdings and circulation, it also expands use. Many institutions overcome this problem by buying the copyright reproduction rights for student use of required materials. Either system has fiscal and personnel implications. Further, counselling services would have to develop strategies for students who wanted career and personal advice in the evenings. If tutors are used as instructional assistants or markers, policies for maximum numbers per student and salary schedules must be considered. At chief executive levels, strategies to reinforce acceptance of distance education, from public acknowledgement at senate meetings to provisions for flexibility when present arrangements would constrain its development, have actively to be pursued.

Two other areas besides public support will also necessitate action: inter-institutional coordination and cooperation in program development and delivery, and agreements with provincial ministries to ensure that course credit transfer procedures among institutions are streamlined.

It seems likely that each province will have its own distinctive network of distance-education opportunities. Economics alone would encourage institutions to develop linkages rather than replicate program offerings. To date, cooperation rather than competition has been the driving force. The extent of distance-education activities offered by Canadian universities suggests that in most provinces educational opportunities are being provided to those unable to attend campus.

For many others, courses are offered at a distance from campus but still by an itinerant instructor. In some cases, institutions demand that the total hours of instructor-student interaction equal that for a regular class on campus. Others have bypassed this bottleneck by arguing for a student workload equivalent to that for a on-campus class student. Weick's notion of an "octopoidal" institution and Lockheed's "pluralistic" university both suggest that many views of education can be sustained in one organization.

Holmberg (1986) refers to the variety of instructional strategies, from independent study contracts to computer-assisted instruction, increasingly available on campuses. In a discussion of the evolution of these strategies, Farrell and Haughey (1986) outlined a trend away from regular teacher-led classroom instruction, to the extension model of itinerant teachers in local facilities, to the use of computer assisted instruction and independent study models within traditional settings and the provision of these options for home study. Distance-education instructional strategies have many on-campus possibilities. Over time, the distinction between traditional and distance education may well blur. In reviewing the state of distance education in the world today Holmberg (1986, p. 145) concluded: "It is difficult to imagine a future in which distance education will be *de trop*." In a country of Canada's size, climate and demography, the use of communications technologies and networks to provide further education would seem an obvious opportunity.

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Distance Education and Accessiblity to Canada's Community Colleges

John Dennison

Introduction

This paper examines the role of community colleges in Canada in the delivery of instructional programs using distance-education technologies. This topic, however narrow, should be viewed within the context of the wider issue of accessibility, a dominant theme among community colleges. An introduction to the community-college concept as it has developed in Canada requires a word about the historic and continuing commitment of colleges to provide expanded access to further educational opportunity for a wide range of learners who, for a variety of reasons, have long been denied admission to more conventional institutions. Obstacles faced by such learners are many; they may include one or more barriers of an academic, geographic, financial, socio-cultural, or psychological nature.

While the role of the colleges in distance education is the primary focus of this paper, it will also be stressed that distance education is just one component within a broader notion of "open learning." This in turn leads to a more socially comprehensive understanding of the issue of accessibility to further education. Open learning will here be described as learner-centred, rather than institution-centred; designed to remove restrictions to learning; and involving the use of a wide range of teaching/learning strategies (Lewis, 1986). The paper concludes with discussion of several issues important to the successful incorporation of distance education and open learning strategies and methodologies into the modus operandi of colleges.

Community Colleges in Canada

The development of colleges and provincial college systems in Canada may be studied largely within an unprecedented period of educational expansion between 1960 and 1975. During this era all provinces and territories (with the arguable exclusion of Nova Scotia) created a particular model of a post-secondary non-university institution that was designed to meet the economic, socio-cultural, or political priorities of the provincial governments of the time (Campbell, 1971; Dennison and Gallagher, 1986). These institutions were given different titles in different regions; "community colleges" (in Alberta, Saskatchewan, Manitoba, New Brunswick and Newfoundland); "college" or "institute" (in British Columbia and Prince Edward Island); College d'Enseignement Général et Professionel (in Quebec); and College of Applied Arts and Technology (in Ontario).

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As these titles varied, so did the colleges' mandates, missions, curricular models, governing structures, and relationships with their provincial ministries. These differences reflected the educational traditions and socio-economic climate of each particular region. Notwithstanding these variations, the literature of the period provides an important insight into several qualities or characteristics of all college models that together constitute the "common goals" of the community college idea (Berghofer and Vladicka, 1980; Soles, 1970; Davis, 1965; Royal Commission, 1963; Faris, 1974; Thompson, 1975).

These common ideals included the cultivation of a broad educational curriculum in which academic, technical-vocational, adult upgrading, and community education would be integrated; a recognition of the critical role of the community or region in influencing institutional priorities; and an overriding commitment to the provision of expanded opportunity to a wide cross section of society.

This last common theme was articulated in several ways, e.g., the concept of an "open admissions" policy; mission statements which incorporated the idea of "democratization of educational opportunity"; or in the form of college policies with respect to tuition fees, financial assistance, travel subsidies, satellite campuses, part-time study arrangements, and extensive counselling and student services; all designed to widen student accessibility to college programs.

The question may well be asked whether, or to what extent, this commitment to accessibility by Canada's colleges has been tempered by financial and demographic realities as the colleges have matured. A recent study (Dennison and Levin, 1987) determined the current priority placed upon the long established goals of Canada's colleges by two critical constituencies—Chief Executive Officers, and personnel in the appropriate Ministry responsible for the colleges. The results from both groups, summarized in Table 1, indicate that access remains a relatively high priority in most provinces. While occupational preparation continues to dominate the mandate of colleges in Ontario, Manitoba, and New Brunswick, and while Quebec's commitment to general education remains unaltered, in many provinces access appears as a first priority and remains prominent in the list of major goals for others.

It is also worth noting that, during the recent National Forum on Post-Secondary Education in Saskatoon (1987), accessibility to further education was designated as one of three major themes. There was general acceptance that colleges had a primary responsibility in this regard. The delegates nevertheless thought that while the "mainstream" Canadian could gain admission to educational institutions relatively easily, serious obstacles remained for groups such as native people, older men and women, part-time learners, and those in isolated rural communities. In spite of some notable efforts in recent years, universities and technical institutes are limited by both location and tradition in their capacity to accommodate such groups. In many regions of Canada the community college provides the only real access for the educationally disadvantaged.

Table 1.

	Priority Ranking by Province								
Community College Goals	BC	AB	SK	MB	ON	PQ	NB	PI	NF
1. To prepare citizens to cope with problems of society	8	8	7	10	10	6	9	7	8
2. To encourage exploration and development of individual potential	7	5	6	5	6	3	8	2	4
3. To provide access to education opportunities	1	1	2	3	5	2	5	6	1
4. To serve educational interests and needs of community or region	4	2	1	4	3	5	6	3	2
5. To provide broad, comprehensive curriculm for education and training	2	4	10	6	4	7	3	5	7
6. To provide instruction in basic, general education	6	7	3	9	9	1	4	9	6
7. To impart knowledge and skills in vocations and in specialize fields	3	3	5	1	1	4	2	4	5
8. to train for employment	5	6	4	2	2	8	1	1	3
9. To help attain economic priorities fo government	10	10	9	7	7	10	7	10	10
10. To help attain political priorities fo government	12	12	12	12	12	12	12	12	12
11. To help attain social priorities fo government	11	11	11	11	11	11	11	11	11
12. To serve as a community resource	9	9	8	8	8	9	8	8	9

Accessibility and Distance Education

Despite of the rhetoric and the idealism expressed by Canada's community colleges upon the importance of accessibility, reality falls far short of the ideal.

The primary problem is that colleges are, by and large, conventional educational institutions. With certain exceptions, mainly in Saskatchewan, colleges quickly sought capital facilities, hired teaching staffs with conventional instructional experience from universities, school systems, business, and industry, and vocational institutes, and offered courses that involve teachers and students in face-to-face situations, albeit often in evenings and weekends. These practices were adopted uncritically for two main reasons. Communities demanded educational structures that coincided with their experience, and the institutions themselves sought credibility and acceptance by universities and a private sector that placed high value upon education as practised in a conventional model that reminded them of their own experience. The result was the creation of colleges. While generally traditional, also adopted many relatively innovative policies and they practise open admission; the acceptance of part-time and mature students as typical, rather than exceptions; the establishment of a number of "store front" learning centres in addition to the main campus; the

provision of self-paced computer assisted learning; the employment of part-time instructors with special skills from the wider community; the instructional arrangements that involve private sector facilities as cooperative enterprises; and the year-round operations. All of these practices were designed to increase accessibility.

However, it was not long before a number of critical assessments of the essential conventionality of college programs emerged. Forsythe (1983) and Crawford (1983) both referred, in different ways, to the need of colleges to extend their efforts beyond the traditional instructional arrangements and allow learners to become involved in college programs in ways that are more conducive to the formers' lifestyles and opportunities.

Among the most constructive and analytical critics of the conventional community college is Dennis Wing, the President of British Columbia's North Island College. North Island College, serving a region where the population is widely dispersed into a number of communities of various sizes, has developed a relatively unique approach to the delivery of programs. Students are offered a range of learning opportunities designed to allow for participation under conditions best suited to the individual. Wing's criticisms extend to the heart of the community college idea in that, in his view:

> colleges have created a "box" in which they are confined and hence unable to make their programs really accessible to a broad cross section of their communities. The "box" is formed by the physical boundaries of their buildings, fettered by the clauses of their faculty agreement, restricted by the months of the calendar and hours of the day and often inhibited by the credits of the University (Wing, 1983).

Wing insists that, had the community colleges remained true to their mandate of genuine increased accessibility, the pressure for "distance education" as a province-wide priority would not have arisen. What he sees is the need for colleges to reaffirm their missions in a way that will return the focus to the learners and the reality of their personal circumstances, often restricted by work and family responsibilities. Further, there needs to be a recognition that the college must make programs and courses available in ways in which the barriers of time and distance are removed and that effective utilization of a wide range of new technologies will increase the learning opportunities of those unable, or unwilling, to fit the instructional schedules of the traditional college.

Of even greater significance, however, is another theme adopted by Wing in which he addressed the "myth" called distance education. In Wing's view, the assumption that a dichotomy exists between face-to-face learning and distance education is clearly false. Colleges that develop distance-education programs as alternatives to regular classroom instruction are simply reflecting the myth. Wing insists that learning opportunities must be seen as points on a continuum between independent learner activity in the home, on one hand, and conventional college-based instruction, on the other. This approach guides North Island College: "In providing learning opportunities any set of the variables of time, place, course, student, technology used, can describe a locus on this continuum" and "The fact is that any particular individual learner may be actively learning at any locus on the continuum" (Wing, 1983).

If the Wing prescription were put into operation, the community college would provide a wide range of learning opportunities so that students might choose the combination that best fits their own schedules. In addition to courses "in print" through the mail, colleges would also provide a range of interactive communication methodologies (computer conferencing and telewriting, audio teleconferencing, video discs and tapes), together with regional tutorials, portable college instructional units; they would also provide for optional gatherings of learners in isolated regions.

The broad combination of human directed and technology based instruction may be described as constituting a system of "open learning" in which the more traditional concept of "distance education" is just one component. Open learning would provide a new and wider dimension to accessibility and add significantly to the role of the community college in this regard.

The final section of this paper presents a number of observations upon those issues that individual community colleges must consider carefully if they are to commit themselves to improved accessibility.

Problems and Issues

There is little doubt that the critical observations of Dennis Wing present a challenge to the community college as it has developed in most regions of Canada. If colleges are to undertake the challenge of broad accessibility, however, they will have to come to grips with a number of important issues. These are precisely the kinds of problems that North Island College has had to solve in delivering its programs to its community.

One of the greatest problems for colleges has been their inability to respond to all of the wide ranging expectations of so many groups in their communities. Having promoted the idea that, unlike more traditional institutions, they would be client centered, responsive educational organizations, colleges soon found themselves unable to meet overall demands. In fact, in recent years financial pressures have given rise to a theme, which is certainly not new, i.e., that the measure of quality is not how many things an institution does, but how well it does the things it claims to do. As a result, colleges have begun to mandate more stringent priorities into their planning activities. This dilemma is exacerbated for colleges in some provinces where credibility with universities is essential to ensure the continuing viability of their academic -transfer programs. The flexibility needed to expand program delivery in these colleges is sometimes hampered by established protocol.

To place an emphasis on open learning to the extent that Wing proposes would inevitably lead to a reduction of conventional instructional services, unless increased funding was made available. The character of the student population could conceivably develop in similar fashion to that at North Island College, where the participation of full-time college-age students is somewhat smaller than in most other colleges. The fact remains that many students in rural areas seek the experience of "college life", with its attendant social and athletic activities, made available through use of conventional college facilities. Whether or not a college can realistically serve these students equally well, while attempting to accommodate the very legitimate expectations of those who seek a

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college experience through distance-education methods, is a matter of resource allocation.

A second major concern is the matter of the quality of the teaching-learning process. Although there has been much debate (Jevons, 1984), there is a paucity of systematic research into the evaluation of distance-education methodology as compared to conventional instruction with respect to student learning in its widest interpretation. This is not to argue that high quality education is not possible under a variety of instructional formats, but careful evaluation is much needed. Withdrawal rates, for example, have been a concern, particularly when "correspondence methods" are practised in the absence of supportive interactive methodologies such as teleconferencing.

There are a number of real but less critical problems that colleges must face if they are to embark upon open learning, as defined in this essay. The need to reorient largely traditional personnel towards the challenges posed by distance-learning technology is a vital consideration. Another issue revolves around the production of programs for distance delivery. Colleges with relatively small enrollment in such programs would face the "economics of scale" problem if they were to attempt to produce their own courses. Clearly, purchasing of established programs would be called for, but the content relevancy of the latter must be carefully gauged.

In a recent paper Garrison (1987) draws attention to the complexity of the communication process, if distance education is to be effective. The competence of the "facilitator" is an essential variable in the learning process, and such competence entails an understanding of the role of technology and the process of adult learning. If colleges are to become engaged in distance-learning techniques they must do so with the full realization that the mere delivery of courses with provision for student communication is not in itself enough to ensure effective learning.

Final Comment

If community colleges are to honour their stated commitment to the provision of access to all potential learners in their communities, continuation of conventional time based face-to-face instructional practices fall far short of meeting that commitment. Education must be made accessible more under the learners' conditions than the institutions'.

Although not discussed in this paper, it is likely that two factors will drive colleges towards the delivery of more accessible programs. The first is the development of advanced technology to facilitate the process; the second is the changing character of learners and their needs: older, part-time, and with less flexible options for study. Social barriers to further education are factors that can no longer be tolerated.

Given the foregoing, the concerns summarized below are not intended to undermine the legitimacy of the argument. These questions are raised for further consideration by those seeking changes in the ways in which colleges set their priorities.

For better or worse, most community colleges in Canada are captives of their historical mandates and the conditions of their establishment. They have offered innovative programs to clienteles different from those in other post-secondary

institutions. They have established a combination of conventional and innovative policies for instructional delivery and, in doing so, have created a certain credibility with industry, other institutions, and society at large. Faced with the challenge of open learning and its attendent technological adaptations, colleges must carefully consider if, and to what extent, open learning can be effectively integrated into their mandates without diminishing their commitment to conventional programs and the expectations of their traditional clients.

The most promising scenario might well be greater and even more creative exploration of the consortium approach, whereby institutions coordinate their resources and program specialities to bring maximum educational opportunities to students at minimal expense to each institution. But with some documented exceptions (Konrad, 1982), effective cooperation and sharing of resources has been difficult for institutions that have carved out individual regional mandates and, in some provinces, been funded for attracting more students under their own particular folds. If coordination is to work well, financial and other incentives from funding agencies must be present. It is important to note, parenthetically, that some funding fomulae used in Canada provide little encouragement to innovative program delivery.

Canada's community colleges must not be excluded from the "distance education" revolution. Indeed, they should be major players. There are obstacles, both real and imagined, but solutions can be found through those qualities that have long sustained the colleges; imagination and experimentation. The challenges to full accessibility must be met.

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Being Responsive To The Adult Distance Learner: A Secondary School Example

Norman McKinnon

Adult education is a "growth industry," and that growth presents a dilemma for educators, especially distance educators. The problem is how to be sensibly and thoroughly responsive to adult students. A useful starting point is to construct a student profile, and then design learning materials to fit the needs, interests, and abilities of the students. To illustrate the point, we here present highlights of a study designed to build a profile, along with an analysis of its value to distance educators.

The Adult Learner: A Growing Majority

The growing number of adults returning to full- and part-time study presents an unique challenge to educators, because they are significantly different from more youthful learners (Rauch, 1981). They participate in learning activities for particular reasons (Cross, 1983), and they differ from youths in their interests, learning styles, and learning needs (Dixon, 1985; Kidd, 1973).

The impact of adult participation has been felt at all levels of Canadian education. In 1935, that participation was notably at the university level and involved nine Canadian universities that offered continuing education services (Kidd, 1956). Following World War II, part-time adult students began to enrol more frequently in secondary level night school programs, and in publicly funded distance-education courses. The flexibility in time and place of distance education appealed to many adults. In Ontario, over 70% of the 2,560 students enrolled in correspondence courses in 1956 were adults (Department of Education, 1957). The 1960s and 1970s witnessed the expansion of the community-college system in all ten provinces, an expansion that broadened the base of participation in higher education and offered access to training not previously available to adults.

The growth in numbers of adults pursuing education continues to expand. Presently, over forty Canadian universities (Brooke and Morris, 1987), and more than 120 public community colleges, participate in one or more aspects of continuing education. At the secondary school level, adults flock in great numbers to not only distance-education courses (Table 1), but also full-time school attendance.

Table 1: Enrolments: Provincial Distance Education Services 1986-87

	Total Enrolments	Secondary Enrolments	Elementary Enrolments	Adult Enrolments
B.C.	18,330	16,930	1,400	2,451
Alta.	38,350	38,000	350	21,093
Sask.	7,400	7,400	0	3,034
Man.	8,950	8,750	200	1,750
Ont.	90,000	89,752	248	73,000
P.Q.	33,000	33,000	0	32,670
N.B.	850	850	0	638
N.S.	2,400	2,360	40	600
Totals	199,280	197,042	2,238	135,236

Source: Jones, G. (1987). *Provincial Distance Education Survey, 1986-1987*. Toronto: Independent Learning Centre, Ministry of Education.

The recent creation of secondary schools for adults only shows that the impact of adult learners at a time of declining secondary enrolment is forcing organizational changes, as do new course development and the exploration of various modes of delivery (cooperative education, adult learning centres with day care facilities, distance education).

Distance education is gaining in popularity and acceptance as a delivery mode for secondary school credits. Of approximately 200,000 Canadian students participating in secondary school distance education in 1986-87, nearly 135,000 (68%) were adults (Table 1).

Current growth aside, the importance of the adult learner assumes long-term significance when viewed in the context of current demographic projections. Statistics Canada (1985) projects that the middle-aged group of Canadians (40-65) will experience the greatest increase of any age group throughout the 1990s to 2006, and, in general, the growth rates of the provinces will follow the trend projected for the Canadian population as a whole. Corroborating the federal forecast is Ontario's population projection for 1986-2006 (Ontario Ministry of Treasury and Economics, 1987). The message to educators is clear: continuing education at the secondary and post-secondary levels is a growth industry. The educator's challenge is to redesign and restructure programs and services to accommodate the adult learner, especially for illiterates.

Both secondary and post-secondary institutions have gradually modified (or are modifying) programs and services to accommodate adults by establishing continuing education and other programs for lifelong learning. Distance-education is part of the accommodation (Mugridge and Kaufman, 1986).

The burgeoning number of adults seeking formal education in the 1970s and 1980s parallels the development and evolution of distance education institutions such as Athabasca University, Téléuniversité, the Open Learning Institute (now Agency), and the publicly funded provincial services at the secondary school level (McKinnon, 1986). Whether in face-to-face or distanced-education modes of delivery, educators must adapt to a growing, and increasingly important client

group—the adult learner—and to the concept of lifelong learning.

One such distance-education institution, the Ontario Ministry of Education's Independent Learning Centre (ILC) responds directly to adult learners at the secondary school level. A recent ILC study (Jones, 1988), of a unique group of learners invites careful scrutiny.

Background

ILC is one of the largest distance-education services in Canada. From a modest beginning in 1926, when four teachers served 200 elementary school children, ILC now employs nearly 750 part-time teachers to tutor over 90,000 students enrolled in 223 elementary, secondary and adult basic-education courses in English and French. In addition, a staff of 99 work at ILC's office in Toronto developing courses and providing educational services and information to teachers, students, and the public. During ILC's first 25 years, children under age 16 made up the majority of students; however, since the mid 1950s the majority have been adults. Currently, 82% are adults.

Not surprisingly, ILC's student body is disparate. It is not uncommon to find a 50-year age span in a group of students in the same course. How can a relevant and meaningful learning experience be provided for each participant? In the classroom, the instructor has the advantage of face-to-face interaction with the students to match resources with learning needs, interests, and abilities. In distance education, being responsive to the learner requires different strategies. A useful starting point is to build a student profile, and then design learning materials to fit the profile.

Methodology

ILC offers courses at three levels of difficulty: basic, general, and advanced. Advanced courses lead to community college and university; general courses lead to community college; and basic courses develop personal and practical skills for the world of work. The study was designed to focus on students in basic level courses.

A sample of 742 students was compiled from a population of 3,779 students enrolled in five basic level courses. The sample was developed by systematically taking every fifth student listed on a computer print-out for each course. In other words, 20% of the students in each course made up the sample population. The courses, the number of students enrolled in each course, and the sample size for each are shown in Table 2. The sample is representative of the total population in the five courses.

Table 2. Sample Size and Source

Course	Total Students	Sample Drawn
Grade 9 Math	1,267	249
Grade 9 English	1,187	233
Grade 10 English	654	129
Grade 10 Math	565	111
Grade 10 Geography	106	20
Total	3,779	742

A 21-item questionnaire, designed by two educators and two editors, and field-tested with 17 students was mailed to the sample population (n=742). Information sought about each student included personal and demographic data, as well as information about interests, education, employment, leisure activities, electronic equipment owned, and reasons for enrolling with ILC.

Findings

Of the 742 questionnaires mailed, 379 (51%) were returned. Considering the low literacy rate, on average, of the sample group, the return rate can be considered satisfactory.

The profile generated from the data show that the majority of the students taking Grades 9 and 10 basic level courses are women and range in age from 26 to 40. They are Canadian born and educated, but only up to Grade 9. Their first language is English. They are parents, employed outside the home; when at home, they watch TV avidly. Their activities outside the home are limited and they prefer to spend time with their families and to do handicrafts or hobbies. Country music is their musical preference, with rock-and-roll a close second. They live in an urban rather than a rural environment, and they rate movies and news programs as their TV viewing choice. While not strong readers, on average, the majority of the respondents indicated the newspaper as their favourite reading material. Watching sports rather than participating in sports ranked high as a leisure activity. For hobbies, the majority indicated interests in handicrafts such as sewing, copper-tooling, and string art. (Only 15% rated reading as a favourite activity.) In response to the question about ownership of electronic equipment, a high number (84%) owned cassette tape players and 48% had video cassette recorders. The most common reasons for enrolling in an ILC course were to earn a diploma and to improve literacy skills.

Discussion

Armed with a profile, course authors and designers have specific characteristics from which to work. Without the profile, authors and designers risk irrelevance or boredom. A high dropout rate is one predictable outcome if the materials do not, in some way, match the needs, abilities, and interests of the students involved.

ILC's student profile offers specific signposts to course developers. First, the majority of students surveyed are adults. Therefore, learning materials must use examples, situations, and case studies with an adult rather than an adolescent focus. Without the profile, a reasonable assumption would be that the majority of students in the Grade 9 and 10 program were adolescents, and the course would be designed accordingly. Second, since 70% of the students are women, course material should be balanced to include, where appropriate, women authors, women's accomplishments, and topics that appeal to females as well as to males. Without the profile, the significance of the large number of women in the courses would not be recognized.

Next, the majority of students are employed and have children. Family demands likely mean that little time is available for uninterrupted study. Many may have very limited study time in total. Material should thus be designed in manageable chunks. Six or seven 15- to 20-minute tasks—as opposed to one task requiring two hours—would fit well. Without the profile, a reasonable estimation of study time would be difficult. Fourth, reading skills and interest in reading are not strong. Learning materials need visual and audio components to supplement or indeed to replace textual material. Since most of the students indicated possession of a audiocassette player, a skilful integration of printed lessons and audiocassettes appears to be an effective media mix for this group. (It would be helpful to monitor VCR access or ownership; almost 50% owned VCRs and claimed to be avid TV watchers; as the percentage of VCRs increases, it becomes feasible to mix print, audio, and video in future course development.) Fifth, student objectives are set on practical goals: a high school diploma, improved literacy skills, or a better job. The goals exclude higher education.

ILC's student profile provides course developers with a design focus, a target group with specific interests and abilities. The high front-end costs associated with developing distance-education materials means the client group must be clearly delineated. One effective way to define the client group is through the creation of a detailed student profile. In the long run, it is worth the time and costs involved. Other sources of information that could be used to support a student profile built from a questionnaire include application forms, counselling records, and the placement or diagnostic tests used in some courses.

To be responsive to adults means to know who they are and why they participate; to recognize how they differ from adolescents; and then, to provide them with learning activities that build on their experiences and allow for self-directedness. With under-educated adults, handicapped by limited literacy skills, a student profile is a useful starting point in the process of responding to the needs of the adult student.

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Canadian Private-Sector Distance Education: A Preliminary Analysis of Organizational Structure and Governance Issues

Kenneth Slade and Robert Sweet

Canadian proprietary schools in 1986 enrolled some 187,000 students in various basic education, business, and technical trades courses (Statistics Canada, 1988). Of these enrollments, 36,000 were served through homestudy courses. Numbers of this magnitude clearly indicate the significant role played by the private sector in expanding educational opportunities at the postsecondary level. Yet the importance of the private sector has not been recognized in most discussions of postsecondary educational policy—including issues of accessibility (e.g., Fortin, 1987). Nor does there exist a body of research to inform these discussions: few studies, if any, have examined the industry (Ferguson and Paulet, 1985; Hope, 1986).

This situation will likely change, given current government policies towards greater involvement of private enterprise in educational matters, especially job training. The recent Provincial Premiers' Conference illustrates this heightened priority: "A need exists to develop greater private sector involvement in addressing questions of equity and access in education and training . . . and in increasing employment opportunities from entry through up-grading and promotion" (29th Annual Premiers' Conference, August,1988). Arguments for improved accessibility have always been countered by expressions of concern with declining instructional quality—a debate that has intensified in recent years as a result of fiscal restraint programs imposed by many provincial governments. The elements of this debate have been characterized by Skolnik (1984) as the access—funding—quality "triangle". In this context, many see distance education as a cost-effective way to overcome barriers to access, assuming that the quality of instructional materials and student support is adequate.

The purpose of this paper is to present some initial findings from a study of program quality in private-sector correspondence schools. More specifically, the paper describes the organizational arrangements of government and industry towards regulation and accreditation. Before doing so, however, we briefly examine the structure of the private educational sector and some of the operating principles that govern it; we then give a profile of student characteristics.

The Private Education Industry

A description of the various correspondence schools operating in Canada as well as a listing of their course offerings was provided by Hope (1986). The following additions to that work draw on data gathered from Statistics Canada (1988), personal correspondence with the provincial ministries responsible for

postsecondary education and job training, and from a survey of selected correspondence schools (Sweet and Slade, 1988).

1. The Structure of the Industry

The proprietary education industry in Canada comprises a number of institutional types. Based on the 1986 Statistics Canada survey (Statistics Canada, 1988), the data displayed in Table 1 outline the various organizational arrangements.

Table 1. The Private Sector.

Institutional Type	Frequency	Percentage
Private Training Instutions	676	78
Private Business Firm*	80	9
Correspondence Schools	49	6
Volunteer Organization or Social Service Agency	17	2
Consulting Firm	11	1
Union	10	1
Professional Association	6	1
Other (e.g. seminar)	18	2

Source: Statistics Canada (1988).
* Firms not primarily involved in providing training

Correspondence schools accounted for six percent of the total number of institutions offering courses outside the publicly funded postsecondary system. While relatively few in number, the forty-nine correspondence schools operating in 1986 were able to offer 618 courses. Hope (1986) has described the range of content represented in these offerings. Table 2 describes enrollment patterns across correspondence courses organized according to the Statistics Canada Major Field of Study Code Classification Structure.

The apparent popularity of courses in the business and technical-trades areas shows clearly the orientation of the proprietary schools toward skill and job-related training demands. Of course, not all courses are tailored to the job market. Courses that appeal to the "leisure learner" and the hobbyist are identifiable. Inclusion of what can be termed continuing professional education courses also indicates the considerable scope of available offerings.

Table 2. Courses and Enrollments

Major Fields of Study	Registrations
Education, Recreation & Counselling Services	1,698
Fine & Applied Arts	2,576
Humanities, Social Science and Related Fields	533
Commerce, Management & Business Administration	24,536
Agricultural & Biological Sciences Technologies	705
Engineering & Applied Sciences Technologies & Trades	6,081
Health Profession, Science and Technologies	92
Total	36,221

Source: Statistics Canada (1988)

2. Operating Principles of the Industry

The most obvious administrative feature of the proprietary school system is the necessity to make a profit. This results in the industry holding to a number of policies, practices, and viewpoints that differ from their publicly-funded counterparts, at least from the academic aspect of the post-secondary system. These resemble the "cultural differences" that exist between faculty of university departments and their colleagues in continuing education divisions who are required to run financially self-supporting programs (Blaney, 1986). A sampling of the educational enterprise from an entrepreneurial perspective gives a sense of the constraints under which proprietary institutions, especially correspondence schools, must operate:

1. priority is given to part-time students;
2. curricular relevance and quality are paramount;
3. there is a market rather than disciplinary orientation;
4. prerequisites are seen as barriers to participation.

Contrasts in the operating environments of profit and non-profit institutions produce further differences in their organizational arrangements. Some of the more salient differences in distance education include:

1. course cost;
2. course length or duration;
3. specialization;
4. flexible entry.

Private-sector courses involve considerable direct costs to students. Charges per course vary considerably depending on whether a student might aspire to be an office worker ($350), an office manager/secretary ($2,500) or an electronic engineering technologist ($13,000).

In general, distance-education programs strive to make the instructional pace of their programs as flexible as possible. Those tied to traditional university or college accreditation requirements, however, tend to assume the shape of the "parent" program. With the same instructional units as campus-based courses, the distance design forces students into a similar pattern of study, usually defined by the term or semester. In contrast, proprietary institutions tend to be sensitive to market forces — both to the job market and to their potential student clientele, who typically wish to acquire job entry or advancement skills as quickly as possible. The majority of correspondence courses then are likely to be very skill- or labour-market oriented programs, relatively free of non-essential material, and of relatively short duration. For the most part, they aim to train rather than educate.

While the instructional nature of private sector programming is very attractive to students seeking focus and relevance in their learning, there may be an additional reason for purchasing a correspondence course. Many students enrolled in proprietary school programs harbour unhappy memories of their public school experience and find the businesslike approach of their new institution a pleasant contrast (Wilms, 1986).

3. Student Characteristics

In fact, we know very little about the students enrolled in correspondence courses. The schools keep minimal records on student characteristics and the data available from Provincial Ministries are only now being updated and organized in a systematic and accessible manner. What we were able to learn about the background of students from our recent survey of selected correspondence schools (Sweet and Slade, 1988) is presented in Table 3. Data from four of the seven institutions surveyed are presented. These four representative institutions have the largest enrollments and the widest range of courses (Hope, 1986).

Table 3. Student Characteristics*

Institution (Enrollment)	Age (Average)	Gender (Female)	Employed
Granton (3,276)	34	1,670	2,622
ICS Canadian (17,129)	29.5	7,708	14,131
McGraw-Hill (1,320)	30	106	1,122
Hume† (60,000)	32.5	12,000	58,800

* Data for 1987 year
† Hume enrollments not included in Statistics Canada Survey data (1988)

Although sufficient to give only an indication of student background characteristics, the information contained in Table 3 nevertheless suggests the non-traditional, adult learner. Most are older than the typical college student and hold job responsibilities. In these respects they resemble the mature, part-time student found in evening classes at colleges. Their agendas for learning are suggested by the institutional enrollment pattern and, to a degree, by the proportion of female enrollments. Granton and ICS have a wide range of courses and consequently attract a mixed enrollment, roughly representative of the general population of adult learners. McGraw-Hill deals in electronics courses with, apparently, little appeal for the majority of female learners. Hume is a special case: its remarkable enrollment does not result from a program of unusually broad appeal, but rather from a very specialized course package designed to improve the student's skills in personal finance and investment. Its students are almost exclusively male, professional (or reasonably well-to-do), with the specific learning goal of improved money management.

It is possible to shape only the thinnest outline of a student profile from the available data. Nevertheless, it is apparent that the private-sector correspondence schools serve the diverse learning needs of a substantial number of Canadians. How well this student market is served and how it may better be served is the concern of the industry itself. How students, as consumers of a product, are protected is the concern of the provincial governments.

Issues of Governance

Distance education within the private postsecondary education sector is regulated, managed, or influenced by a variety of agencies, some external to the industry and others developed within the industry itself. The obvious external agents are the provincial governments that regulate through legislation and an annual monitoring procedure, with the primary purpose of holding the proprietary schools to minimal standards of program quality. Internal influence is exerted by the different trade associations that the industry has established on both provincial and national levels. Here, the purpose is not so much to set

minimal standards of program quality as to promote higher standards of educational and training excellence.

It should perhaps be stressed that the agencies, external and internal, whose task it is to set and promote standards, must be viewed more as potential influences than real influences. In some provinces monitoring is not an annual undertaking, and certainly membership in provincial and national trade associations, or with any national accreditation agency, does not embrace the entire industry.

The individual or "in-house" attempts of companies to ensure the quality of their course production and student support systems are not dealt with in this paper; nor are the effects of market forces considered, although clearly such effects are decisive. In fact, given the primacy of profit, a proprietary school's success is quite literally dependent on the reactions of its students and potential students. In this sense, the market operates as the final arbiter of program quality and relevance.

1. Provincial Governances

Canadian institutions in the private sector offering distance-education courses do so in the tradition of correspondence courses and under legislation that in earlier times served to regulate apprentice programs and urban vocational programs such as barbering and beautician training courses. The names of current provincial legislation, such as the British Columbia Apprenticeship Act, and the Trade School Regulation Act (Nova Scotia), reflect this, although most legislation is now more in keeping with a description of the industry styled around descriptors such as Private Vocational Schools Act (Ontario). Since education is a provincial responsibility, all provinces have such legislation. Any institution providing courses in a particular province is obliged to be registered in that province. Often vocational skills are defined by referring to the occupations included in the Alphabetical Index of Occupational Titles in the Canadian Classification and Dictionary of Occupations in order to determine what types of vocational training are to be covered by the Acts. At other times it is spelled out that any course offered for fee is to be covered by the Act. Each province has appointed a Minister, Commissioner, Director, or Superintendent charged with exercising the mandate of the Act. One can find such a charge described: "To ensure that training is provided of high quality providing an individual with skills and knowledge required to obtain gainful employment." This again shows the legislation's main intent of ensuring that the private postsecondary institutions provide quality in programming and suitable job training.

An examination of the provincial acts immediately shows the ad hoc character of the legislation. The private postsecondary educational sector, driven by free enterprise and entrepreneurship, has been said to show the same characteristics as any business endeavour: "It provides the best and worst of any product or service" (Hope, 1986, p. 204). Consequently, much of the legislation is a patchwork of attempts to protect consumers, and although consumer rights and accountability are not specifically mentioned in the provincial acts and regulations governing the private postsecondary education, clearly these are intended.

Regulations within the various provincial Acts governing the private postsecondary industry contain a wide array of sections: pre-licensing requirements, government fee structures, the approval of instructors, bonding requirements, advertising constraints, school management, sale of courses, cancellation agreements, stipulations concerning diplomas and certificates, and the business performance of agents selling the courses.

A detailed analysis of provincial government variations in the treatment of these issues has been undertaken (Slade and Sweet, 1988), and some sections can be excerpted from that analysis to show the breadth and depth of government concern (Figure 1). The Pre-licensing Requirements, Advertising and Course Cancellation issues were chosen for discussion because they pertain most directly to the operation of distance-education institutions.

1.1 Pre-licensing Requirements

Before licensing a private institution, a province needs certain information. What courses are to be given? Why does the institution feel there is a need for such a course? The syllabus is examined, sometimes in great detail with a scrutiny of individual lessons. Some provinces ask for outside peer evaluation of the program. Teaching staff is of great concern to most ministry offices and one can find quite finite teacher qualification categories built around academic, technical, and experiential evidence. Sometimes character references—for teachers and owner/operators—are requested. Agents must be registered at the same time, although fewer provinces require sales agents to be endorsed by character referees.

Legislation governing private postsecondary education appears to have been initiated on an ad hoc basis essentially to resolve faults that have evolved in the development of the industry. Course contracts with students, advertising material, and the proposed diploma to be issued upon successful completion of a course are scrutinized. Contracts often have to meet certain stipulations and are vetted to ensure that they fall within the intent of the particular Act. Advertising copy, to be described more fully below, comes in for close attention to ensure reasonable and, within the definitions of the Act, legal communication. Similarly, a few provinces (Ontario, Newfoundland, Quebec) demand a pro forma fiscal account for the projected course under scrutiny. Bonding has to be registered in the name of the minister to cover fiscal eventualities. Bonding requirements have risen quite dramatically in recent times. Liabilities from failed businesses can produce startling sums. Rather than have all institutions in a province secure a bond equal to the highest figure projected, a minister may match the amount of the bond with the institution's enrollment (B.C.). The big institutions have large bonds; small institutions, lesser bonds.

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	AB	BC	MB	NB	NF	NS	ON	PI	PQ	SK
PreLicensing Require:										
Course Syllabus	+	+	+	+	+	+	+	+	+	+
Detailed Lessons	+		+	+	+		+	+		
Ext. Course Eval.		+		+						
Teacher Vitae	+	+	+	+		+	+	+	+	
Character Refs.			+	+			+	+		
Agents Reg'd	+		+	+	+	+	+	+	+	
Agent Charact. Ref.			+	+				+		
Contracts Examined	+	+	+	+	+	+	+	+	+	+
Diploma Examined	+		+		+	+	+	+	+	+
Fee Struct. Examined	+	+	+	+	+	+	+	+	+	+
Bonding Requiremt.	+	+	+	+	+	+	+	+	+	+
Pro Forma Fiscal Plan					+		+		+	
Inspections Required	+	+	+		+	+	+	+	+	+
Advertising										
Misrepresentation	+	+	+	+	+	+	+	+	+	+
Visable Address		+	+	+	+	+	+		+	+
Govt. Ad. Approval			+		+		+		+	+
Radio and TV appr.			+		+	+	+	+	+	+
No "Help Wanted" Ad	+	+	+		+	+				+
No Testimonials	+		+		+		+		+	+
No Govt. Endorsemt.	+	+	+	+	+		+			+
No Guarantee Work	+		+	+		+		+	+	+
Course Cancellation										
Cancellation Details	+	+	+	+	+	+	+	+	+	+
Reg. Fee Amt.	+	+	+		+		+	+		+
Canc. Prior to Start	+	+		+	+		+		+	
Canc. During Course	+	+		+	+		+	+		+
Canc. By School	+	+			+	+	+			
Corresp. Cse. Cancel	+	+			+	+	+	+		+
Sch. Rights Pro Rata	+	+	+	+	+	+	+	+	+	+

Figure 1. Provincial Regulations for Private Training Institutions (Presence of topic indicated by +)

1.2 Advertising

A constant in provincial regulations on institutional advertising is the general exhortation not to misrepresent in any way the offering of the institution, and this general dictate can translate into very real power for the ministry officials. Some provinces require that approval be given to advertising copy prior to its use. The seemingly trivial insistence of including a registered provincial address has its roots in the legal requirements of consumer protection. Because of growth in use of radio and T.V. in order to gain access to the home audience and potential distance-education students, a number of provinces require all radio and T.V.

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advertising to be approved. An inherited stipulation from very early legislation has been the inclusion of a regulation prohibiting placing advertisements in the Help Wanted sections of the newspapers. Frequently Acts forbid "Testimonials of previous students being used". It is usually mentioned that licensing gives an institution the right to say only: "the school is registered under the Apprenticeship Act of _____ by the Province of _____." And again, most provinces have a regulation prohibiting in any way the guaranteeing of work as a result of taking an advertised course.

1.3 Course Cancellation

Over the years, cancellation rights of both course buyers and course sellers have been a contentious issue. Again the ad hoc consumer protection compilation of provincial Acts has led to some varied considerations. All provincial Acts have specific cancellation details. Most provinces limit the amount an institution can charge as a registration fee. Most provide limits on charges assessed students cancelling a contract before the course has started, during the course, or courses cancelled by the institution itself. Special considerations as to the cancellation of correspondence courses are made in the majority of provincial Acts. While most items under course cancellations are geared towards consumer protection all the acts protect the school right to a pro rata fee settlement to that proportion of a fee used by the student.

2. Provincial Annual Monitoring of Correspondence Schools

Provinces generally require an annual monitoring of an institution's correspondence courses, and the requirements differ in detail from one province to another. Using Ontario's annual monitoring as an example, we see statistical information gathered on enrollments — both active students and those who had discontinued their courses. Graduates are also tallied.

Details of administrative staff, support staff, tutors and agents are also called for. On-site inspections are carried out to look at the back-up facilities and the kit and study-material inventories of the institution. Inspectors look at study kits and check how the institution processes documents, particularly enrollments. The procedures for resolving problems are examined. The assignment flow is inspected, and a representative number of student assignments to and from a tutor is examined. Lesson turn-arounds are evaluated. Data concerning instructional delivery systems and types of lesson material are gathered. The ministry officials typically want to know if questionnaires are sent to a prospective student to determine that student's potential for success in a particular program. The frequency of testing and supervision of examinations are determined. Feedback to students is looked at and tutorial service and contacts are examined. The Ministry is anxious to know how inactive and lagging students are stimulated to resume their studies. All advertising, contracts, and brochures are examined for compliance to the provincial act.

These areas represent a fair sampling of requirements for the annual monitoring procedures. There are more, but these represent the degree of detailing that one province covers. Whether all institutions, in all provinces, are subjected to an examination of this kind is not easily determined. Our preliminary information suggests the opposite. Annual monitoring clearly helps

maintain quality control of the industry, and we see it as potentially the most powerful external regulatory influence upon the industry.

3. Industry Based Trade Associations

The private postsecondary schools have organized themselves internally through provincial trade associations, through national trade associations, and through an industry accreditation commission. Representative provincial organizations would be:

1. The Private Career Training Association (B.C.);
2. The Manitoba Association of Career Colleges (Man.);
3. The Private Career Education Council;
4. The Council for Private Vocational Schools (Que.);
5. The Newfoundland Association of Career Colleges (Nfld.);

These organizations have a mandate to present the industry's views to government agencies, legislatures and other agencies; to promote mutual respect; goodwill and understanding among members; to foster a positive image of the industry to the public, and to collect pertinent data; to encourage improvements to curriculum through research and training; to provide members with data pertinent to the industry; and to promote the best interests and general welfare of the student trained within an independent private educational institution. They also represent an entry point in the industry's professional involvement. Membership is open to operators in the field licensed by the provinces.

How representative of the industry are the provincial trade organizations? Taking B.C. and Ontario as the largest provinces in terms of number of institutions (58%) one finds 29 members in PCTA and 67 members in PCEC (Statistics Canada, 1988). While this translates to simple percentages of 7% and 27% of all institutions in those provinces who are members of those organizations, it is not known what percentage of students are represented by these schools. These data are not immediately available, nor perhaps are they likely to be, given the private industry's view that they are details of a private company's business.

On a national scale, schools providing distance education might belong to the Association of Canadian Career Colleges (ACCC), an organization founded some 92 years ago. Serving some 73 members, the association has general aims and objectives to similar those of the provincial associations, but it also provides a national network of examination sites for association members and their distance-education students and standardized vocational competency testing under the auspices of ACCC in some 40 fields. The ACCC publication, *The Communicator*, serves the industry as an information exchange and an educative vehicle. Provincial developments, the happenings of the U.S. private sector, and the progress of the National Accreditation Commission all find a platform in the publication.

The National Accreditation Commission was founded in 1984 as an industry initiated organization; it exerts a professional influence upon member organizations towards a goal of "Excellence in Education". Organizations seeking accreditation, and the obvious status and credibility that accompanies professional scrutiny, submit themselves to standards built around admission procedures, faculty, programs, facilities, student services, and business practices. Initial entry consists of submitting documentation. Later, on-site evaluations are

carried out by the organization's Commissioners or their delegates. Potential members have to have been in business for at least two years, and an earned accreditation is for a five year period.

While the numbers of institutions granted accreditation status remain quite small (21 main schools and 6 branch schools in March 1988), a professional standard based upon criteria of excellence rather than upon minimal standards established by the provinces in initial licensing requirements is in evidence.

In the USA, accreditation offers considerable advantage to a proprietary institution because a full range of student government loans is given only to students in accredited institutions. Accreditation in Canada is seen as an obvious argument to government to establish parity between public and private institutions with respect to student loans.

No topic has greater implication for policy deliberation in the private postsecondary sector than that of student funding. As one might expect, parity between private and public post secondary students is observed with Federal government loans. Provincial loan programs make different assumptions and operate under different guidelines, with the result that students enrolled in private sector schools are distinctly penalized. This occurs at two levels. The direct course enrollment costs to private-sector students are significantly greater; and the loan remission policies governing student loans favour students enrolled in public institutions.

Conclusion

This paper has presented some initial findings of a research program aimed at examining the private educational sector in Canada. We began by outlining the structure and operating principles of the correspondence schools. Aspects of governance most relevant to distance-education institutions were discussed in terms of government regulation and the industry's attempts at establishing accreditation standards.

Regulation and accreditation define attempts of government and the private sector, respectively, to maintain and enhance the quality of instruction offered by proprietary schools. Program quality and related issues of access and funding form the basis of policy decisions regarding the respective roles of public and private sectors in Canadian postsecondary education. The access—funding—quality triangle also defines a framework within which relevant policy research may be conducted. Our description of some of the basic features of the proprietary correspondence schools and their governance marks only an initial step towards a program of research needed to understand more fully the private sector's contribution to postsecondary education in Canada.

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Collaboration in Distance Education

Abram Konrad and James Small

Introduction

Distance education in Canada at the postsecondary level can be traced back to the correspondence courses offered at Queen's University in 1889. A hundred years later over forty colleges and universities offer distance-education programs, ranging from selected courses to full diplomas, certificates, and degrees (Croft, 1986). While the prevalent pattern is that of a "dual-mode" institution (a regular campus-based institution with a distance-education component), three institutions devoted specifically to distance education emerged in the 1970s: Athabasca University in Alberta, Télé-université in Quebec, and the Open Learning Institute in British Columbia.

The institutionalization of distance education threatens to follow the common pattern of higher education, and indeed of education generally. Ever since Mark Hopkins moved his students from the legendary log to a building, teaching has largely been confined to classrooms. Within the traditional college or university, the classroom is the professor's private preserve; academic freedom guards the door from the intrusion of curious onlookers and concerned patrons alike. Much of distance education, by its very nature, is a public act. Once it has been recorded, academic staff can observe, comment upon and shape each other's teaching, as can members of society in general. The "openness" of distance education calls for collaboration among individuals and institutions.

Institutional collaboration in Canadian higher education is not new. Some of the early developments in Canadian higher education were collaborative in nature. Victoria College in British Columbia, for example, was established in 1900 as an affiliated college of McGill University, some 3,000 miles distant. However, postsecondary institutions have not been noted for cooperation, even within provincial boundaries. In their survey of distance education in Canada, Helm and Stahmer (1987, p. 4) found "relatively little collaboration" among postsecondary institutions. More commonly, the history of higher education reflects the individuality of institutions with its concomitant qualities of autonomy and competitiveness.

Recent fiscal constraints and governmental initiatives to increase the efficiency of postsecondary systems have challenged the traditional independence of institutions. In discussions leading to the development of a Western Canadian Committee on University Distance Education, President Lloyd Barber stressed the great possibilities of cooperation in distance education: "If we can't pressure governments to pool resources, we'll each spend our limited resources to poor advantage and argue forever about who owns a student and jurisdictional matters" (Carefoot, 1982, p. 19). From her survey of cooperative ventures in distance education, Croft (1986, p. 40) concludes that the prevailing attitude in Canada is that the time is ripe for collaboration in distance education. However, a number of barriers must be overcome for collaboration to become a greater reality.

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Barriers to Collaboration

The interest in moving toward greater collaboration in distance education faces barriers of both an individual and institutional nature. Some of these have been identified in the Canadian and American experience.

1. *Academic chauvinism*: Faculty members in higher education greatly value the tenet of academic freedom and its corollary of independence. Croft (1986, p. 35) maintains that the major problem facing distance education is "a reluctance to accept someone else's course because the 'slant' or emphasis does not correspond exactly to one's own". Too often faculty members hold tenaciously to the notion that "if we didn't make it, it can't be good enough" (Smith *et al.*, 1984, p. 81). As long as faculty members are reluctant to accept materials developed by others, collaboration will be thwarted.
2. *Institutional autonomy*: Collaboration calls for a surrender of some aspects of institutional autonomy. Institutions that enter cooperative ventures with the qualification that there will be no "erosion of autonomy" (Mugridge, 1983) underestimate the cost of collaboration. At the same time, however, collaboration should not be viewed as an institutional liability. Terry Morrision (1988, p. 9) invites universities to re-think the "zero-sum informational games" that characterize traditional market economies, and engage in information sharing through communications technology.
3. *Academic credibility*: The method of establishing academic credit often creates difficulty in distance education (Ellis and Chapman, 1982). Time-based formulae that incorporate some form of contact hours in lecture, laboratory and field placement to tally course credit simply do not apply in distance education. Furthermore, according to Briggs *et al.* (1987, p. 38):

> ... some academics still claim that distance education lacks legitimacy, arguing that it can give the shadow but not the substance of a university education, that it provides predigested instruction rather than the open-ended dialogue that is the essence of good education, and that its students miss the intangible but priceless benefits of residence on a campus.

The fear of loss of credibility of the institution when many of the traditional trappings of university education are not present adds to the reluctance of some academics to collaborate in distance-education ventures.

4. *Lack of trust*: Collaborative activities require a high level of trust and commitment among participating members. When autonomous institutions undertake a joint venture, it is only natural for representatives of these institutions to be suspicious of each other. The old attitudes of "What's in it for me?" and "Are you contributing your fair share?" die hard. Collaboration cannot succeed in the face of suspicion and mistrust among participants (Konrad and Small, 1986b).
5. *Fiscal constraints*: Sometimes collaboration is undertaken primarily as a means of reducing costs. As Briggs *et al.* (1987, p. 38) point out, collaboration in distance education "can bring economies of scale, but its development makes demands for resources". Collaboration projects often entail heavy developmental costs well in advance of the enrolment of students. Institutional participation in cooperative activities requires a thorough assessment of fiscal requirements and careful attention to resource management.

6. *Structural arrangements*: The structural arrangements for collaboration present a dilemma. In an earlier paper (Konrad and Small, 1986b, p. 83), it was suggested that collaborative structures are "inimical to most institutional management principles", particularly those of a bureaucratic nature. However, in comparison with the informal and collegial nature of management in conventional institutions of higher education, Smith *et al.* (1984, p. 79) maintain that "distance-education operations usually need to be highly centralized and require a much more directive style." In a collaborative activity, appropriate structural arrangements must be established to reflect the "ownership" of all participants and to maximize responsiveness to emerging opportunities.

While other barriers may arise, including the complex issues related to copyright and licensing of teaching materials, the six described above are among the most challenging ones faced in collaborative activities. In the next section, the feasibility of collaboration at three levels will be explored.

Levels of Collaboration

It is hard to imagine any postsecondary institution not collaborating with other institutions at some level or another. Unless it is the only institution in a particular nation or state, a college or university will regularly interact with other members of the postsecondary system. In their proposal for a University of the Commonwealth, Briggs *et al.* (1987, pp. 46-49) examined four models of cooperation: an information service, a brokerage agency, a university partnership, and an independent Commonwealth university. The first three models exemplify three levels of collaboration presented in this section, with examples drawn largely from the survey by Marian Croft (1986).

1. *Information sharing*: The simplest level of collaboration is information sharing. Institutions exchange information about students, programs, and operational details through telephone calls, electronic mail, written correspondence, formal reports, casual meetings, professional meetings, and so on. Kidd (1956) reports on the role of the Canadian Association for Adult Education in establishing forums and short courses for information sharing among adult educators. Similarly, the Canadian Association of University Continuing Education (CAUCE) provides opportunities for sharing ideas and experiences among its members. This association also gave birth to the Canadian Association for Distance Education (CADE) and produces an inventory of distance-education programs. Regional organizations like the Atlantic Provinces Association for University Continuing Education, The Ontario Council for University Continuing Education, and a group that includes the universities of the four western provinces also act as forums for information exchange as well as promoting distance-education initiatives. In 1984, the Ministries of Education of the four western provinces, the Yukon, the Northwest Territories, and the federal Minister of Intergovernmental Affairs signed an agreement to create a Distance Education Committee to pursue collaborative activities. "The trend towards interprovincial cooperation and sharing is a healthy one", asserts McKinnon (1986, p. 197), "that should elevate and improve the educational experiences offered to students and reduce developmental costs".

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Information sharing in distance education seems important around the world. The Australian and South Pacific External Studies Association (ASPESA) was formed in 1972 "to meet needs of professional interaction among those attempting to serve rapidly growing populations of external students" (Mitchell, 1982, p. 216). In 1979 the Capricorn Interuniversity Program (PIUTEC), a cooperative venture of universities located in the Capricorn area of Latin America, was established "to promote and develop distance education among its members" (Nicolini, 1982, p. 72).

These as well as many other informal mechanisms exist for information sharing in distance education. While informal mechanisms may not be the most effective means of achieving cooperative goals, Rice (1985, p. 10) asserts that "informal, voluntary arrangements based upon trust have been able to accomplish greater cooperation in a few short years than more formal bodies and structures [in Atlantic Canada] have been able to do in the past century". The existence of these mechanisms, however, is not a guarantee of effective interaction. The absence of a commitment to cooperation can frustrate the best designed plans for achieving common goals.

2. *Strategic collaboration*: Strategic collaboration refers to any formal agreement to collaborate in a limited way. Brokerage, for example, involves cooperative ventures in program delivery in some specified area. North Island College on Vancouver Island contracts with Athabasca University and other institutions for courseware in its distance-education program. Leasing arrangements permit Laurentian University in Sudbury to offer courses from Téléuniversité, Athabasca University and Wilfrid Laurier University, while some of the courses developed at Laurentian have been used by Athabasca University, the University of Ottawa, and Wilfrid Laurier University.

   Several media ventures initiated by provincial governments also exemplify strategic collaboration. In 1970 the Ontario Educational Communications Authority (OECA) was established to provide educational programs for use by other educational agencies. In 1974 the OECA established a network of transmitters and called it TV Ontario. A number of universities have jointly collaborated with TV Ontario for the development of telecourses. A similar agency was formed by the Alberta Government in 1973, the Alberta Educational Communications Corporation (ACCESS); its principal role is to develop and deliver programs via satellite, teletext, videodisc, and radio in cooperation with other educational enterprises. In 1980 British Columbia created the Knowledge Network of the West Communications Authority (KNOW) as an inter-organizational educational telecommunications authority to assist distance-education initiatives. While these governmental authorities differ by statute from public educational institutions, their collaborative ventures have had a major impact on distance-education activities.

3. *Consortia*: The highest level of collaboration lies in the creation of a formal partnership, the archetype of which is a consortium wherein two or more institutions agree to establish a new mechanism to undertake, on their behalf, programs and projects of mutual interest. Smith and Snowden (1982) regard a formal agreement to be necessary if the collaboration is to endure and benefit all parties. In the creation of a consortium, some authority is ceded to the new agency, although control of the agency itself usually resides in a representative board. A consortium administers programs and services more

effectively and efficiently than could be done by member institutions acting independently.

The essential elements of a consortium include a formal written agreement, an independent agent to manage the agreement, and an allocation of resources by member institutions to support the consortium (Patterson, 1977). Usually an office is established and a director is appointed to administer the agreement under policies of the consortium board.

Consortia in distance education are relatively new in Canada compared with their development in the United States (Konrad and Small, 1986a). Among the best examples of Canadian consortia are the five postsecondary consortia in Alberta created to provide educational services in areas of the province outside of the primary service region of any one institution. A consortium board, with representatives from each participating institution as well as local advisory groups, directs the program offerings of the consortium.

In 1984 the British Columbia Open University Consortium was formed to expand the degree options within that province. The Quebec government, in 1986, established a francophone consortium, CANAL (Corporation pour l'avancement des nouvelles applications des langues), for television distribution of audio visual materials as well as for establishing safellite and video links for program exchanges among other educational agencies. The establishment of this interuniversity consortium, assert Guillemet *et al.* (1986, p. 152), "bodes well for the future of this approach". And most recently, the Ontario government made a major commitment to collaboration in distance education by creating Contact North/Contact Nord. With regional centres located at Thunder Bay (Confederation College and Lakehead University) and Sudbury (Laurentian University and Cambrian College), Contact North/Contact Nord operates a network of electronic classrooms across northern Ontario. The Southern California Consortium for Community College Television (SCCCCT, n.d.), now in its second decade of production, was formed to provide college credit through televised courses.

In considering collaborative developments, Sweet (1986, p. 169) concludes, "the development of consortia appears to facilitate accreditation, academic legitimacy and the development of a unique identity for distance education". Functioning under the direction of a policy board of its own, a consortium can provide a strong basis for collaborative initiatives in distance education.

Conclusion

The days of institutional independence in higher education are waning. New forms of program delivery, especially distance education, require ever increasing collaboration among colleges and universities. Morrison (1988, pp. 47,48) envisions "a global learning network" characterized by "collaborative course teams drawn from several nations, developing programs in common areas, and showing the perspectives of each of their countries."

Distance education by its very nature calls for collaboration. Educational institutions must move away from a posture of independence and isolationism toward a commitment to interdependence and cooperation. Whether by information sharing, strategic collaboration, or consortia, governmental agencies,

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educational institutions, and public corporations must join forces to extend educational opportunities across this country and beyond. Not only can collaboration reduce costs and eliminate unnecessary duplication, it also can strengthen the quality of course offerings and learning services. With collaboration, the quality of life among professionals can be expanded and enriched, thereby creating better options for an ever-increasing diversity of learners.

The time has come for barriers to collaboration to be surmounted, and for access to learning to be provided through increasingly complex communication technologies. Distance education cannot achieve its potential without collaboration. The higher the level of collaboration, the greater will be its impact upon learning.

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Collaboration in Distance Education: British Columbia's Open Learning Agency

Ian Mugridge

In the last decade, the government of British Columbia has supported two major public agencies offering distance-education programs province-wide. In 1978, it established the Open Learning Institute (OLI) with a mandate to offer "by distance means" programs in three areas: adult basic education; career-technical-vocational education; and first degrees in arts and sciences. OLI offered its first courses on a very limited basis in September, 1979, at which point enrolment in seven pilot courses numbered about 750; and, since then, it has grown into the province's largest multi-level provider of distance-education. Shortly after OLI began offering courses, the government set up another agency, the Knowledge Network of the West (KNOW) to act as the B.C. educational television network and to offer programs both in its own right and as an adjunct to the offerings of other parts of the provincial educational system. Since it began broadcasting in 1981, KNOW has grown to be a major force. It now has a weekly viewership of well over 500,000.

On 1 April, 1988, these two agencies passed into history as separate programming entities when a piece of provincial legislation, creating the Open Learning Agency, passed the previous December, took effect. This formally confirmed an arrangement dating back two years. The establishment of the Open Learning Agency (OLA) and its programming components has laid the legal and organizational foundations for a major and perhaps unique move towards coordinated and collaborative activity in open learning and distance education.

At the time of OLI's formation in 1978, there were in British Columbia three provincial universities, three provincial institutes, a college of art and design, and fourteen community colleges. The new institute, formed by the then minister of education Dr. Patrick McGeer in response to a perceived need to increase educational and training opportunities in a province with a small but widely scattered population, was not greeted with widespread enthusiasm by the existing post-secondary system. All of the universities were, in different ways, already engaged in distance-education. The same could be said of several of the community colleges, one of which, North Island College, was indeed operating entirely in a distance-education mode. OLI decided early on to see itself as part of the existing system and to assume that its students would wish to carry transfer credit to and from other institutions in the province. Programs had to be designed so that there was as good a fit as possible with those of other institutions. On this basis, OLI's first administrators sought to develop an institution that would add to and complement the existing system rather than detract from or compete with other institutions.

Much the same may be said of the Knowledge Network. This was also set up by the Ministry of Education as a means of providing increased support for the distance-education offerings of provincial institutions and of making general education (via television) more readily and widely available. Again, this development was not universally well regarded, and KNOW's decision to work

with and through existing institutions was not merely required by legislation but also dictated by provincial circumstances.[3]

The course of these two agencies has not been invariably smooth and successful, nor has there been uniform and profitable collaboration between them and the other segments of the post-secondary system in B.C. But there has been a general movement towards greater collaboration and integration of distance-education systems. Part of this came because of the extraordinary fiscal restraint imposed on the educational system by the provincial government in the early and middle eighties. This produced an increasing recognition that inter-institutional collaboration was one way in which workable solutions could be found to the problems caused by tightly controlled and inadequate budgets. In addition, there was a growing belief on the part of many senior administrators in post-secondary institutions that such collaboration enabled the system as a whole to provide a more effective service to students. Such collaboration also allowed institutions to work in areas of strength rather than to spread meagre resources too thinly.

One example of such collaboration can most graphically illustrate the emergence of a changing climate. In 1984, with strong encouragement and support from the ministry, the four public degree-granting institutions—the University of British Columbia, Simon Fraser University, the University of Victoria, and OLI—joined to form the Open University Consortium of B.C. This organization published in a common calendar the distance-education offerings of the four participants, which could be taken as part of a common degree offered by the OLI or as part of existing credentials at the three universities. OLI provided advising, registration, and record keeping for all members, while instruction was delivered, as before, by the institution in which particular courses originated. Under the direction of a board consisting of two representatives from each institution and from the Knowledge Network, which was also a member of the consortium, attempts began to bring together the offerings of the institutions into a single, coherent program.[4]

Again, the process by which this was achieved was neither smooth nor easy; the claims and aspirations of four independent institutions are not readily amenable to such coordination. But students at four institutions have been provided with a common source of information about the programs of four institutions and a common registration point. There has also been considerable progress towards the development of coordinated plans for the offering of existing courses and the projection of new ones. The new developments referred to earlier have helped to sharpen this process.

In the summer of 1985, the ministers responsible for post-secondary education requested OLI and KNOW to begin jointly to plan a merger of the two organizations under a provincial open learning authority. The planning group, directed by the separate boards required by law but combined by common membership in the group, moved quickly to develop recommendations for the ministers. There followed a period in which the political process moved rather more slowly. The recommendations were reviewed; a bill was introduced into the provincial legislature only to die on the order paper as an election was called; a new minister, appointed after the election, announced his intention of reviewing such a major piece of legislation; and further delays ensued. It was therefore not until early December 1987, that the Open Learning Agency Act was finally introduced into and passed by the legislature. It was proclaimed early in the following year and took effect on 1 April 1988.

The OLA Act is a clear attempt by government to develop a coordinated, collaborative system of open learning within B.C. This expression—"open learning"—now used in preference to the more narrowly defined distance education, is used to indicate a spectrum of learning methods that may range from completely distance education on one hand to face-to-face instruction on the other, with a variety of combinations of learning methods in between, all designed to improve service to and access for the individual learner. The act is thus based on the principles that, in a province with B.C.'s geographic and demographic conditions, a system of open learning is required to go as far as possible in removing the limitations and disadvantages imposed by these conditions, and that such a system should be developed collaboratively among institutions.

With OLA as an umbrella agency governed by a government-appointed board, three program components have been established. Two of these, the B.C. Open University (OU) and the B.C. Open College (OC), continue the activities of the old Open Learning Institute. The third is the Knowledge Network. The mandates of each component also reflect their past; OU offers degree programs; OC offers programs in technical-vocational studies and adult basic education; and the network offers general education programs and acts as a service to the provincial system. The significant difference is that each component now has a separate planning council, composed according to regulations to the OLA Act, and reflecting the particular mandate of the component. Thus, the OU Planning Council contains two representatives from each of the other provincial universities and two from the college assessment. The terms of reference of the councils make them responsible for establishing a system of needs assessment and for making programming and budgetary recommendations based on that assessment. The councils are thus in a position to ensure that provincial needs in particular areas are both identified and, as financial considerations permit, met.

In the case of the OU Planning Council, continuity with the growing practice of the past is most clear. The Open University Consortium has now ceased to exist and its functions have been subsumed under the Open University. The Planning Council includes not merely representatives from the other universities but, in each case, the two people who served on the consortium board. Thus, the progress of the earlier organization and the services it provided will be continued and, it is to be hoped, expanded under new circumstances. The calendar of the consortium has now become that of the Open University and will contain growing evidence of collaboration. The courses and programs it lists constitute the open university program of B.C., an increasingly integrated set of offerings from four institutions as well as a number of colleges, and the program of the B.C. Open University, the offerings of a particular institution within the provincial system.

Notes

1. The number of colleges subsequently increased to fifteen with the division of one of the existing institutions into two.
2. For a discussion of the early years of OLI, see John Ellis and John Bottomley. "Problems and Opportunities Associated with Developing and Operating a Distance Education System", presented at the British Open University Conference on the Education of Adults at a Distance, Birmingham, U.K. 1979;

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3. On the early Knowledge Network, see Kathleen Forsyth. "Knowledge Network - a new hybrid for learning systems", *Distance Education*, vol. III, 2, (1982) and Michael Catchpole and Alexandra MacGregor, "British Columbia's Knowledge Network: macro and micro perspectives on the use of television in educational delivery", in L. Parker, ed., *Teleconferencing and Electronic Communication III* (Madison, Wisc., 1984)
4. For comments on other collaborative activities in distance education in Canada in which OLI was involved, see Ian Mugridge, "Consortia in Distance Education: some Canadian experiences", *Open Campus*, 8 (1983)

Collaboration in Distance Education: Ontario's Contact North/Contact Nord

Terry Anderson and Connie Nelson

Background

In October 1986, the Ontario government announced a twenty million dollar, four year undertaking to establish a distance-education network for residents in northern Ontario. Named Contact North/Contact Nord, it is designed to serve a geographic area that represents 87% of the land area in the province and 8.5% of the population (Statistics Canada 1986). Although the overall provincial population density is 9.9 persons per square kilometer, the average district population density for the Contact North/Contact Nord catchment area is 7.5 persons per square kilometer, with a range among districts from .1 to 58.5 persons per square kilometer (Statistics Canada 1986).

Prior to the operation of Contact North/Contact Nord in northern Ontario, distance-education offerings were limited to primary, secondary, and adult basic education correspondence courses from the Ministry of Education's Independent Learning Centre (ILC) based in Toronto, to the teleconferenced supported courses delivered from Confederation College, and to correspondence courses from postsecondary institutions. In addition, two universities and five community colleges in northern Ontario offer post-secondary programming through off-campus continuing education initiatives. Courses are primarily available through correspondence, off-campus learning centres, or face-to-face instructors who fly to a community on a biweekly basis.

Contact North/Contact Nord enters this educational milieu with the following objectives:

1. to improve access to formal educational opportunities at the secondary and post-secondary level for residents of northern Ontario;
2. to establish a long-term capacity to improve access to other training and informal educational opportunities;
3. to meet the ongoing and emerging educational needs of residents in communities remote from conventional delivery sources by use of new information and communication technologies;
4. to meet the special needs of francophone and native peoples in northern Ontario;
5. to create new and expand existing expertise in the design and operation of technologically enhanced distance-education programs in northern Ontario;
6. to create models for the alternative delivery of educational services capable of

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a. application more broadly throughout Ontario, and
b. application to the needs of other jurisdictions, including developing countries;
c. to create a "test-bed" to evaluate the effectiveness of various technologies in delivering distance education.

Structural Collaboration

From the beginning, the initiative required institutional collaboration. It was by no means clear that all the players agreed on a concept of "collaboration", or that they would be willing and able to give up their individualistic ways for the sake of it—which becomes a central research question.

Several ministries cooperated with the Ministry of Colleges and Universities to provide the initial financial and policy resources needed for the project by September 1987. These ministries formed a provincial coordinating committee to oversee the ongoing formulation of policy for the network. Membership includes ministry representatives as well as the contractors for Contact North/Contact Nord.

The two central theses of the Contact North/Contact Nord project are, first, that access to distance education at all levels can be improved through collaborative institutional effort; second, this kind of initiative, along with appropriate resources, has a synergistic effect beyond the participating educational institutions.

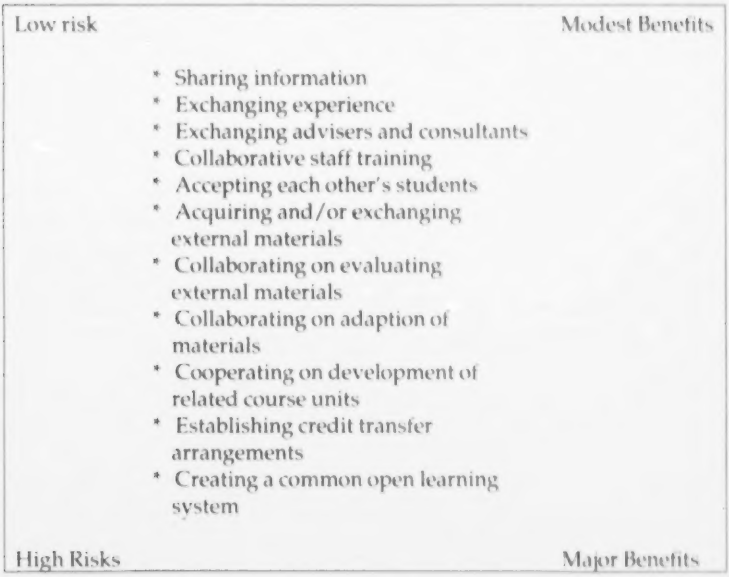
Existing established geographic catchment areas for the two northern universities—Lakehead in the northwest and Laurentian in the northeast—became the boundaries of two distance-education Contact North/Contact Nord centres in northern Ontario. In the northwest centre, Lakehead University and Confederation College are the contractors; in the northeast Laurentian University and Cambrian College. Contact North/Contact Nord is thus composed of two regional centres each with their own administrative director and staff and technological infrastructure.

To insure the collaborative involvement of secondary schools and community representatives in each region, boards that advise contractors and government on appropriate policy and on network development have been established.

Program-level

The Contact North/Contact Nord project has chosen various strategies of collaboration with other institutions both in developing and delivering distance-education courses and programs. For comparison, the International Extension College/Council for Educational Technology (1987) ranked a variety of such strategies for joint efforts according to their potential risks and benefits. Figure 1 illustrates the continuum in strategies from those that are low risk, and modestly beneficial to the participating institutions, to strategies ranked as high risk with major benefits.

Figure 1: Strategies for Joint Institutional Participation


Low risk
Modest Benefits
* Sharing information
* Exchanging experience
* Exchanging advisers and consultants
* Collaborative staff training
* Accepting each other's students
* Acquiring and/or exchanging external materials
* Collaborating on evaluating external materials
* Collaborating on adaption of materials
* Cooperating on development of related course units
* Establishing credit transfer arrangements
* Creating a common open learning system
High Risks
Major Benefits

As our examples show, Contact North/Contact Nord network's strategies extend along this continuum.

A portion (40%) of Contact North/Contact Nord funding has been allocated to establish the Northern Distance Education Fund. The provincial government's intent in establishing this development fund is both to recognize the up-front costs of new programs and to encourage a collaborative framework in developing courses for these new initiatives. The conditions of application to the fund stress institutional collaboration:

i. priority is given to projects undertaken in a collaborative manner;
ii. full programs, not courses, are to be developed;
iii. content and delivery methodology are to clearly meet northern needs;
iv. focus must be given to the development of new programs not currently available in Ontario;
v. programs that encourage quality development by the use of team approaches to course development must be emphasized.

All programs receiving development monies under this fund are to be delivered in northern Ontario by northern institutions. However, by agreement, each program is licensed to the provincial government and becomes "public domain" in the provincial educational system.

To date twenty-two projects have been approved for feasibility studies in the development of collaborative programs, and 15 full-degree or certificate programs have been funded. Collaborating institutional partners must demonstrate ongoing commitment of resources both in the development and the delivery phases of programming. The existing Contact North/Contact Nord

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network is to be considered by each approved project; but each project may, in turn, further define, develop and expand this electronic network.

The effect of these collaborative efforts has been dramatic in some cases. Institutions traditionally isolated either geographically and/or philosophically from each other are designing joint programs. In one case, northern universities have resolved differing perspectives on community health care and gone on to co-develop a professional degree in nursing. A program proposal in the field of gerontology originally submitted jointly by five regional community colleges received subsequent support from a provincial association seeking a similar training program.

The requirement to develop programs rather than courses and to avoid duplication has encouraged creative joint institutional projects. For example, in the northwest region, Lakehead University is working jointly with a southern Ontario university to design new certificates in the professional schools of Outdoor Recreation and Environmental Studies. Existing audio-visual materials, newly produced videos, and non-credit seminars via teleconferencing are all part of the program package.

Benefits for northern institutions arising directly from these collaborative programs have been identified in at least three areas:

Technological Infrastructure:

Early in the project, monies were budgeted to improve both media production through the acquisition of more sophisticated video equipment and through the implementation of an automated library service accessible to the north.

Professional Development:

Partner institutions co-developing a program are able to offer enhanced academic resources. For instance, specialized academic expertise can be traded for practical field experience or other specializations. In addition, the collaborative interchange of personnel resources at both the proposal and the program development stages provides a working education for administrative, instructional, and support staff.

Such collaborative ventures demand both formal professional development at the institutions, and also continuous practice in the skills of problem solving and consensus building. The traditional patterns of curriculum development have, then, been set aside—all in the interests of collaboration.

Student Support Services:

Student-support services are greatly enhanced by inter-institutional collaboration. Study skill seminars delivered either by teleconferencing or face-to-face instructors are offered to many distance-education students.

The issues raised by this collaborative framework are multiple and complex, the risks considerable. Operational definitions of collaboration, course-team structures, and ownership and/or copyright of jointly developed materials must be resolved from the outset. Traditional institutional concerns arise on matters

such as territory, institutional mandates, joint accreditation, academic credibility, funding formulas, and credit portability.

Special Target Group Collaboration Course Development

Course Development:

Contact North/Contact Nord provides additional human resources to enhance collaboration in the creation and delivery of distance-education courses. Two instructional designers have been hired to work in a consultative role with teams composed of academics and media specialists to develop new distance-education courseware. A variety of inservice supports are provided to faculty to assist in acquiring the skills necessary to develop and deliver new distance-education programming.

Secondary Schools:

Two school liaison officers work with the secondary school system assisting in delivery of existing teleconferencing courses and in the development of pilot projects using distance-education technologies. Principals struggling to offer complete high school programs within very small communities have been very supportive of these secondary distance-education initiatives.

Special Cultural Groups:

A French language program officer as well as a native liaison officer have been contracted to work with community and educational groups to develop and deliver distance-education programming specifically targeted to francophone and native learners.

Community Collaboration

The northwest and northeast centres are each responsible for regional planning and development. In order to accommodate the widest variety of delivery modes currently in use by institutions in Ontario, Contact North/Contact Nord has configured its network with a heterogeneous collection of technologies. A 40-port digital teleconferencing bridge as well as the CoSy computer conferencing system is available at each of the two regional centres.

Community-based access sites form a critical component of these regional networks. At present there are thirty-five access sites: fifteen in communities in the northwest and twenty in communities in the northeast. These access sites are located in a variety of places, including college satellite centres, secondary schools, and community training centres. Each of the 35 access sites is equipped with a teleconferencing convenor, a Telewriter II audiographic device, a facsimile machine, a video tape playback system and television, an IBM AT, and a Unisys ICON microcomputer, as well as an audio cassette recorder and telephone answering system.

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These access sites are each staffed by a local community site coordinator who facilitates collaboration between the community and institutions delivering distance-education courses and/or degree and diploma programs. Site coordinators promote this collaborative effort between community and institution by focusing and defining the educational needs of their own communities and feeding this information back to delivery institutions.

An additional option is available to communities for collaboration. The Contact North/Contact Nord network is to be available to community-based groups at cost for delivering workshops, seminars, and discussion groups. This option for communities to use the network system as a carrier for their own programming has the potential for the development of a knowledge base independent of accredited institutions. The current prohibiting factor, of course, is the cost of the carrier. The sparse population density of northern communities may quickly offset these costs when the only other option is to pay enormous travel expenses for all participants to meet in one designated geographic area.

Learner Collaboration

Contact North/Contact Nord uses the access sites to promote collaboration among learners. Variable participation rates in distance-education courses between similar sized communities suggest there may be a "learning culture" operating that is in large part independent of the actions and activities of the delivery institutions. The community-based access sites are designed to support and facilitate this type of learner initiated, cooperative behaviour.

From the perspective of the learner, the access site consists of a small classroom available as a study and learning centre, where both informal exchanges over coffee and more formal discussions and seminars can occur. These mutual exchanges facilitate sharing of information; comparing learning experiences; discussing ideas learned from advisors, counsellors, and instructors; exchanging print-based materials; and assessing the challenges of learning by distance education.

The site coordinators complete the cycle of cooperation by facilitating collaboration between institutions and community learners. The site coordinators act as an information resource, technician, librarian, counsellor, referral service and janitor. The site coordinators, as the key community contacts, must have well developed personal skills as well as credibility and knowledge of the local communities in which they work. The site coordinators work twenty hours a week, dividing their time between flexible hours needed for monitoring the delivery of audio conference courses and maintaining limited but regular office hours.

Collaboration in Context: The Meaning of this Case Study

Contact North/Contact Nord began as a collaborative distance-education initiative. From this beginning, the network has supported joint efforts in developing and delivering programs and courses and in establishing access sites that promote opportunities for community and learner collaboration.

The question that remains to be answered is how these collaborative efforts at all levels will effect the model of learning that is promoted through the Contact North/Contact Nord. Enckevort *et al.* (1986) warns learner needs rank lower than institutional survival needs and efficiency as the determining criteria for selecting educational content in historical precedence.

Increasing access to formal educational resources does not in itself ensure either wider or more meaningful participation of the learner in the educational process. In fact, packaging education for mass consumption may result in a reduction in opportunities for the learner to participate in the exploration of knowledge (Snell, Hodgson and Mann, 1987). The determining factor is what Boot and Hodgson (1987) refer to as the two orientations toward open learning: the Dissemination orientation and the Development orientation. Dissemination implies that the developer and deliverer of materials place primary importance on the transmission of a body of knowledge determined by established experts as information needed for a student to become an educated and informed person. Evaluation focuses on determining whether the learner can recall the appropriate knowledge. By contrast, the Development orientation views the learner as an active and necessary part of the learning process, in which the learner is encouraged to explore knowledge within the context of life experiences. Learning is viewed as an ongoing and life-long process.

Enckevort *et al.* (1986) suggests that more participatory education can result within distance education when opportunities are created for learner collaboration:

> A first way is to build into the teaching system more elements of *social contact* fellow-students, family, friends and colleagues. There are many promising examples in this field: self-help groups . . . study-circles . . . quality circles in industry . . . and the use of work place supporters. . . . (Enckevort *et al.* 1987)

The choice of investing in interactive, as opposed to one-way, technologies facilitates this "development" potential. Audio and computer conferencing for students communicates not only educational, but also personal, community, and professional, concerns. These concerns and applications of formal knowledge are communicated between students and instructor and to other learners spread across northern Ontario.

The Contact North/Contact Nord access sites will decide whether this initiative promotes learner collaboration, active learner participation, and critical analysis of the meaning of one's own knowledge and that of others.

Learner collaboration in turn may promote opportunities for community collaboration where collective feedback is communicated to the network. Likewise, learner collaboration may encourage communities to use the technology to deliver their own information.

This case study demonstrates that collaboration is not limited to discourse on structural or institutional arrangements. Collaboration can support a concept of open learning that promotes the learner as a mutual partner in the learning process. This occurs when structures such as the Contact North/Contact Nord access sites encourage both learner and community collaboration.

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